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# CONSTRUCTION OF ALASKA RAILROAD

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## HEARINGS

BEFORE THE

## COMMITTEE ON THE TERRITORIES

HOUSE OF REPRESENTATIVES

SIXTY-SIXTH CONGRESS
FIRST SESSION

ON

## H. R. 7417

AUTHORIZING THE APPROPRIATION OF THE SUM OF $17,000,000 IN ADDITION TO THE SUM OF $35,000,000 HERETOFORE AUTHORIZED AND APPROPRIATED FOR THE CONSTRUCTION OF A RAILROAD IN ALASKA BETWEEN SEWARD AND FAIRBANKS, WITH NECESSARY SIDINGS, SPURS, AND LATERAL BRANCHES

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JULY 23, 24, 25, AND 31, 1919

WASHINGTON
GOVERNMENT PRINTING OFFICE
1919

## COMMITTEE ON THE TERRITORIES.

### House of Representatives.

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ALBERT JOHNSON, Washington.
CASSIUS C. DOWELL, Iowa.
NICHOLAS J. SINNOTT, Oregon.
LOUIS T. McFADDEN, Pennsylvania.
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MARTIN L. DAVEY, Ohio.
GEORGE B. GRIGSBY, Delegate, Alaska.

Charles F. Curry, Jr., *Clerk.*

# CONSTRUCTION OF ALASKA RAILROAD.

COMMITTEE ON THE TERRITORIES,
HOUSE OF REPRESENTATIVES,
*Wednesday, July 23, 1919.*

The committee met at 11 o'clock a. m., Hon. Charles F. Curry (chairman) presiding.

Present: Messrs. Johnson, Dowell, McFadden, Brooks, Strong, Watson, Weaver, Davey, and Delegate Grigsby.

The CHAIRMAN. Gentlemen, the meeting is called this morning to consider H. R. 7417, a bill to amend an act of Congress approved March 12, 1914, authorizing the President of the United States to locate, construct, and operate railroads in the Territory of Alaska, and for other purposes.

The original bill authorized the appropriation of $35,000,000 to construct railroads and spur tracks in Alaska by the Federal Government. The railroad with its spurs and sidings to be not more than 1,000 miles in length, about two-thirds of which has been completed, and the $35,000,000 authorized has already been appropriated. The road would have been completed under the original authorization and appropriations had it not been for the war and the increased cost of labor and material. The last $2,400,000, I think it was—anyway between $2,000,000 and $3,000,000—do you know how much that was, Mr. McPherson?

Mr. MCPHERSON. $2,038,029.

The CHAIRMAN. The last $2,038,029 available, was appropriated and is to be used in the present fiscal year, is not sufficient. This bill, of course, authorizes the further appropriation of $17,000,000, which seems to be necessary.

I will include in the hearings a copy of the original act, also a copy of the present bill.

(The act and bill referred to follow:)

[PUBLIC—NO. 69—SIXTY-THIRD CONGRESS.]

[S. 48.]

AN ACT To authorize the President of the United States to locate, construct, and operate railroads in the Territory of Alaska, and for other purposes.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That the President of the United States is hereby empowered, authorized, and directed to adopt and use a name by which to designate the railroad or railroads and properties to be located, owned, acquired, or operated under the authority of this act; to employ such officers, agents, or agencies, in his discretion, as may be necessary to enable him to carry out the purposes of this act; to authorize and require such officers, agents, or agencies to perform any or all of the duties imposed upon him by the terms of this act; to detail and require any officer or officers in the Engineer Corps in the Army or Navy to perform service under this act; to fix the compensation of all officers, agents, or employees appointed or designated by him; to designate and cause to be located a route or routes for a line or lines of railroad in the Territory of Alaska not to exceed in the aggregate one thousand miles, to be so located as to connect one or more of the open Pacific Ocean harbors on the southern coast of Alaska with the navigable waters in the interior of Alaska, and with a coal field or fields so as best to aid in the development of the agricultural and mineral or other resources of Alaska, and the settlement of the public lands therein, and so as to provide transportation of coal for the Army and Navy, transportation of troops, arms, munitions of war, the mails, and for other governmental and public uses, and for the transportation of passengers and property; to construct and build a railroad or railroads along such route or routes as he may so designate and locate, with the necessary branch lines, feeders, sidings, switches, and spurs; to purchase or otherwise acquire all real and personal property necessary to carry out the purposes of this act; to exercise the power of eminent domain in acquiring property for such use, which use is hereby declared to be a public use, by condemnation in the courts of Alaska in accordance with the laws now or hereafter in force there; to acquire rights of way, terminal grounds, and all other rights; to purchase or otherwise acquire all necessary equipment for the construction and operation of such railroad or railroads; to build or otherwise acquire docks, wharves, terminal facilties; and all structures needed for the equipment and operation of such railroad or railroads; to fix, change, or modify rates for the transportation of passengers and property, which rates shall be equal and uniform, but no free transportation or passes shall be permitted except that the provisions of the interstate commerce laws relating to the transportation of employees and their families shall be in force as to the lines constructed under this act; to receive compensation for the transportation of passengers and property, and to perform generally all the usual duties of a common carrier by railroad; to make and establish rules and regulations for the control and operation of said railroad or railroads; in his discretion, to lease the said railroad or railroads, or any portion thereof, including telegraph and telephone lines, after completion under such terms as he may deem proper, but no lease shall be for a longer period than twenty years, or in the event of failure to lease, to operate the same until the further action of Congress: *Provided*, That if said railroad or railroads, including telegraph and telephone lines, are leased under the authority herein given, then and in that event they shall be operated under the jurisdiction and control of the provisions of the interstate commerce laws; to purchase, condemn, or otherwise acquire upon such terms as he may deem proper any other line or lines of railroad in Alaska which may be necessary to complete the construction of the line or lines of railroad designated or located by him: *Provided*, That the price to be paid in case of purchase shall in no case exceed the actual physical value of the railroad; to make contracts or agreements with any railroad or steamship company or vessel owner for joint transportation of passengers or property over the road or roads herein provided for, and such railroad or steamship line or by such vessel, and to make such other contracts as may be necessary to carry out any of the purposes of this act; to utilize in carrying on the work herein provided for any and all machinery, equipment, instruments, material, and other property of any sort whatsoever used or acquired in connection with the construction of the Panama Canal, so far and as rapidly as the same is no longer needed at Panama, and the Isthmian Canal Commission is hereby authorized to deliver said property to such officers or persons as the President may designate, and to take credit therefor at such percentage of its original cost as the President may approve, but this amount shall not be charged against the fund provided for in this act.

The authority herein granted shall include the power to construct, maintain, and operate telegraph and telephone lines so far as they may be necessary or convenient in the construction and operation of the railroad or railroads as herein authorized and they shall perform generally all the usual duties of telegraph and telephone lines for hire.

That it is the intent and purpose of Congress through this act to authorize and empower the President of the United States, and he is hereby fully authorized and empowered, through such officers, agents, or agencies as he may appoint or employ to do all necessary acts and things in addition to those specially authorized in this act to enable him to accomplish the purposes and objects of this act.

The President is hereby authorized to withdraw, locate, and dispose of, under such rules and regulations as he may prescribe, such area or areas of the public domain along the line or lines of such proposed railroad or railroads for town-site purposes as he may from time to time designate.

Terminal and station grounds and rights of way through the lands of the United States in the Territory of Alaska are hereby granted for the construction of railroads, telegraph and telephone lines authorized by this act, and in all patents for lands hereafter taken up, entered or located in the Territory of Alaska there shall be expressed that there is reserved to the United States a right of way for the construction of railroads, telegraph and telephone lines to the extent of one hundred feet on either side of the center line of any such road and twenty-five feet on either side of the center line of any such telegraph or telephone lines, and the President may, in such manner as he deems advisable, make reservation of such lands as are or may be useful for furnishing materials for construction and for stations, terminals, docks, and for such other purposes in connection with the construction and operation of such railroad lines as he may deem necessary and desirable.

SEC. 2. That the cost of the work authorized by this act shall not exceed $35,000,000, and in executing the authority granted by this act the President shall not expend nor obligate the United States to expend more than the said sum; and there is hereby appropriated, out of any money in the Treasury not otherwise appropriated, the sum of $1,000,000 to be used for carrying out the provisions of this act, to continue available until expended.

SEC. 3. That all moneys derived from the lease, sale, or disposal of any of the public lands, including town sites, in Alaska, or the coal or mineral therein contained, or the timber thereon, and the earnings of said railroad or railroads, together with the earnings of the telegraph and telephone lines constructed under this act, above maintenance charges and operating expenses, shall be paid into the Treasury of the United States as other miscellaneous receipts are paid, and a separate account thereof shall be kept and annually reported to Congress.

SEC. 4. That the officers, agents, or agencies placed in charge of the work by the President shall make to the President annually, and at such other periods as may be required by the President or by either House of Congress, full and complete reports of all their acts and doings and of all moneys received and expended in the construction of said work and in the operation of said work or works and in the performance of their duties in connection therewith. The annual reports herein provided for shall be by the President transmitted to Congress.

Approved, March 12, 1914.

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[H. R. 7417. Sixty-sixth Congress, first session.]

A BILL To amend an act of Congress approved March 12, 1914, authorizing the President of the United States to locate, construct, and operate railroads in the Territory of Alaska, and for other purposes.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled*, That the act entitled "An act to authorize the President of the United States to locate, construct, and operate railroads in the Territory of Alaska, and for other purposes," be amended by inserting at the conclusion of section 2 the following:

"*Provided*, That in order to complete on or before December 31, 1922, the construction and equipment of the railroad between Seward and Fairbanks, together with necessary sidings, spurs, and lateral branches, the additional sum of $17,000,000 is hereby authorized to be appropriated, to be immediately and continuously available until expended."

The CHAIRMAN. The first witness we will call this morning is Mr. John White Hallowell, assistant to the Secretary of the Interior, who will make a statement, and he also has a letter from the Secretary of the Interior to file.

## STATEMENT OF MR. JOHN WHITE HALLOWELL, ASSISTANT TO THE SECRETARY OF THE INTERIOR.

Mr. HALLOWELL. Mr. Chairman, as the Secretary's assistant he has asked me for the last few months to follow the details of the Alaskan Railroad matters, and yesterday I reduced to writing—and showed to the Secretary—the facts regarding the progress of the Alaskan Railroad to date, simply to give a little picture, chronologically, of what has happened in the past, particularly for the benefit of the new members of this committee. The Secretary approved the statement, and if you will permit me I will read it. [Reading:]

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### MEMORANDUM REGARDING ALASKAN RAILROAD.

DEPARTMENT OF THE INTERIOR,
OFFICE OF THE ASSISTANT TO THE SECRETARY,
*Washington, July 22, 1919.*

On March 12, 1914, the President approved an act of Congress entitled "An act to authorize the President of the United States to locate, construct, and operate railroads in the Territory of Alaska, and for other purposes."

In that act the President is "empowered, authorized, and directed * * * to designate and cause to be located a route or routes for a line or lines of railroad in the Territory of Alaska not to exceed in the aggregate 1,000 miles, to be located as to connect one or more of the open Pacific Ocean harbors on the southern coast of Alaska with the navigable waters in the interior of Alaska, and with a coal field or fields so as to be able to aid in the development of the agricultural and mineral or other resources of Alaska; * * * to purchase or otherwise acquire all necessary equipment for the construction and operation of such railroad or railroads; to build or otherwise acquire docks, wharves, terminal facilities and all structures needed for the equipment and operation of such railroad or railroads; * * * to purchase, condemn, or otherwise acquire upon such terms as he may deem proper, any other line or lines of railroad in Alaska which may be necessary to complete the construction of the line or lines of railroad designated or located by him."

Section 2 of the act provides:

"That the cost of the work authorized by this act shall not exceed $35,000,000, * * * and there is hereby appropriated, * * * the sum of $1,000,000 to be used for carrying out the provisions of this act, to continue available until expended."

On May 2, 1914, the President placed upon the Secretary of the Interior the responsibility of carrying out the terms of the act of March 12, 1914, and in May, 1914, the President, upon the recommendation of the Secretary of the Interior, appointed the Alaskan Engineering Commission to handle the details.

Mr. JOHNSON. Did the President place the responsibility upon the Secretary of the Interior, or did the act?

Mr. HALLOWELL. The act empowered the President to do these things, and the President designated the Secretary of the Interior. [Reading:]

On April 10, 1915, President Wilson announced the selection of the route for the Alaska Railroad to be built by the Government. The route adopted is known as the Susitna route and extends from Seward, on Resurrection Bay, to Fairbanks, on a tributary of the Tanana River, a distance of 471 miles. This route includes the existing Alaska Northern Railway, which runs from Seward through the Kenai Peninsula for a distance of 71 miles to Turnagain Arm, and has been purchased from its owners by the Government for $1,157,839.49.

From Turnagain Arm the route extends through the Susitna Valley and across Broad Pass to the Tanana River, and from there to Happy Station at mile 463, where it connects with the Tanana Valley Railroad, and from there on to Fairbanks. A branch line extends from Matanuska Junction into the Matanuska coal fields, a distance of 38 miles. A spur about 3 miles in length extends from this branch up Eska Creek to the Eska coal mine, and a short spur up Moose Creek to the Doherty mine.

The Tanana Valley Railroad has been purchased by the Government at a cost of $300,000. It is a narrow-gauge line, extending from Fairbanks to Chatanika, a distance of 39 miles, with a 5-mile branch from Chena Junction to Chena.

When the present work is completed, there will be approximately 549 miles of main line, branches, and spurs, and approximately 52 miles of sidings, yard tracks, switches, etc., making a total trackage of approximately 601 miles.

To-day the construction of the Alaskan Railroad from Seward to Fairbanks, with branches and spurs, about two-thirds completed.

By reference to the maps furnished you, you will observe that track is laid on the main line to Talkeetna, which is 227 miles from Seward; that a branch line has been constructed to the Matanuska coal field; that track has been laid from Nenana to the coal fields of that name approximately 48 miles to the south; and that rail has been laid approximately 9 miles southward from the junction with the Tanana Valley Railroad near Fairbanks.

The mileage of main line and branches purchased, constructed, and in operation is as follows:

| | Miles. |
|---|---|
| Alaskan Northern Railway, purchased and partially rehabilitated | 71 |
| Main line constructed northward therefrom | 156 |
| Branch line constructed to Mantanuska coal field | 38 |
| Main line constructed in the interior | 57 |
| Tanana Valley Railroad, purchased and partially rehabilitated | 44 |
| Total | 366 |

The maps show the additional grading which has been done. Also, that there is one gap between mile 265 and mile 365 of approximately 100 miles, upon which no work of actual construction has been done, and a gap of 34 miles between a point near Nenana and a point near Fairbanks, upon which no rail has been laid.

That is south of a line 47 miles long with a gap here [indicating] of 100 miles, and a gap here [indicating] of 34 miles.

Mr. JOHNSON. Has any work been done at all on that gap of 100 miles?

Mr. HALLOWELL. Just a survey for locations.

Mr. JOHNSON. No grading has been done?

Mr. HALLOWELL. No; no grading has been done.

Mr. JOHNSON. And you spent $35,000,000 in getting the rest of the road ready, less the other gap?

Mr. HALLOWELL. Yes, sir.

Mr. JOHNSON. And you think you can build this 100 miles for a portion of the $17,000,000 asked for here?

Mr. HALLOWELL. The $17,000,000, as Mr. McPherson will show in explaining his detailed estimates, is the amount which will complete the line.

Mr. DOWELL. That will complete the two gaps?

Mr. HALLOWELL. That will complete the two gaps.

Mr. JOHNSON. And pay for everything connected with putting the railroad in full operation?

Mr. HALLOWELL. Yes; I will come to that in just a moment if you will permit me to read this. [Reading:]

In addition to construction work on the railroad proper, a great deal of work has been done in the constructing of docks, terminal structures, rolling stock, hospitals and dormitories, etc.

I wish to submit for your information a memorandum prepared by Secretary Lane last February which contains information of importance for this committee to have.

(The memorandum referred to follows:)

### MEMORANDUM ON THE ALASKAN RAILROAD.

[By Secretary Lane.]

The Alaskan Railroad, which is under construction from Seward to Fairbanks, is about two-thirds done. It has been built without graft; every dollar has gone into actual work or material. It has been built without giving profits to any large contractors, for it has been constructed entirely by small contractors or by day's labor. It has been built without touch of politics; every man on the road has been chosen exclusively for ability and experience. (I do not know the politics of any one of the 7,000 men who are or have been connected with the road, excepting Mr. Riggs, who is now governor of Alaska.) It has been well and solidly built as a permanent road, not an exploiting road. It has been built for as little money as private parties could have built it, as all competent independent engineers who have seen the road advise.

In the summer of 1917 I sent Mr. Edwin F. Wendt, of the Interstate Commerce Commission, in charge of valuation of the railroads of the United States from Pittsburgh to Boston, to make an investigation into the manner in which the Alaskan Railroad was constructed and its cost. He reported to me as follows:

"In concluding it is not amiss to again state that after the full study which was given to the property during our trip we are satisfied that the project is being executed rapidly and efficiently by men of experience and ability. It is believed that it is being handled as cheaply as private contractors could handle it under the circumstances."

Mr. Wendt had been connected for 25 years with the Pittsburgh & Lake Erie road as an engineer in charge of construction and maintenance, and was designated to make this investigation by me upon the recommendation of Mr. Prouty of the Interstate Commerce Commission.

Recently I had occasion to call in Mr. Wells, chief construction engineer of the Southern Railway Co., who reviewed the cost figures of the Alaskan Engineering Commission; and he said that he was astonished that the work cost so little; that on his own road during the past year he had paid more per yard for earth and rock work than it had cost in Alaska during the same period.

The road has not been built as soon as expected because each year we have exhausted our appropriation before the work contemplated had been done. We could not say in October of one year what the cost of anything a year or more later would be, and we ran out of money earlier than anticipated. It has not been built as cheaply as expected, because it has been built on a rising market for everything that went into its construction from labor, lumber, food supplies, machinery, and steel to rail and ocean transportation. I believe, however, it can safely be said that no other piece of Government construction or private construction done during the war will show a less percentage of increase over a cost that was estimated more than four years ago.

The men have been well housed and well fed. Their wages have been good and promptly paid; there has been but one strike and that was four years ago and was settled by Department of Labor experts fixing the scale of wages. The men have had the benefit of a system of compensation for damages like that in the Reclamation Service and Panama Canal. They have had excellent hospital service, and our camps and towns have been free of typhoid fever and malaria. That the men like the work is testified by the fact that hundreds who "came out" the past two years, attracted by the high wages of war industries, are now anxious to return to Alaska, and for them and in the interest of the Territory I think we should have a large enough appropriation to speedily complete the road.

There has been but one set back in the construction, and that was the washing out of 12 miles of tracks along the Nenana River. This is a glacial stream, which, when the snows melt, comes down at times with irresistible force. In this instance it abandoned its long accustomed way and cut into a new bed and through trees that had been standing for several generations, tearing out part of the track which had been laid. But this damage has been repaired and the road relaid in what is thought to be a safer place. Such accidents may be expected on any road laid through the western mountains. There is not a single railroad from the Copper River Road in Alaska to the Southern Pacific in Arizona which has not been closed for weeks, and some times months at a time, because of such washouts. Nor is there a western railroad which has not been compelled to relocate scores and scores of miles of track.

### ALASKAN ENGINEERING COMMISSION.

The credit for the work done is to be given to the men and to the Alaskan Engineering Commission, who have had charge of construction. This commission consisted of Mr. Edes, Lieut. Mears, United States Army, and Mr. Riggs. These gentlemen were appointed by the President upon my recommendation; Mr. Edes, because of 30 years' experience in locating and constructing railroads in the far West for the Santa Fe, Southern Pacific, and other railroad companies; Lieut. Mears, because of his experience as an engineer on the Northern Pacific under Mr. Stevens, and later in the construction of the Panama Railroad under Col. Goethals; Mr. Riggs, because he had spent many years in Alaska and surveyed the Alaskan-Canadian boundary from the sea to the Arctic Ocean, and was familiar with the Alaskan people and conditions under which work could be done in Alaska. Within the past year, Lieut. Mears returned to active service in the Army and Mr. Riggs was appointed governor of Alaska.

The work of locating and constructing the road has been left in their hands entirely. The only instruction which they received from me was that they should build the road as if they were working for a private concern, selecting the best men for the work irrespective of politics or pressure of any kind. I have not asked them to appoint one man. As a result, we have a force that has been gathered from the construction camps of the western railroads, made up of men of experience and proved capacity. That they have done their work efficiently, honestly, and at reasonable cost is my belief.

### ROAD CONSTRUCTED.

The road as projected is to run from Seward to Fairbanks, a distance of 471 miles In addition there is a line to the Matanuska coal fields (completed) of 38 miles.

The southern end of the road is the old Alaska Northern, running for 71 miles north of Seward, which was bought.

The northern end of the road is a part of the old Tanana Valley road (7 miles), leading directly into Fairbanks, which was also bought. (This was part of a line 44½ miles long running out of Fairbanks, but 37 miles of this road is not counted in any mileage figures here given.)

Between the 71 miles of the Alaskan Northern on the south and the 7 miles of Tanana Valley road on the north there was a stretch of 393 miles to be built through a waste. Of this there has been built 206 miles of main line track, leaving 187 miles of this direct road from Seward to Fairbanks to be yet constructed. But of this stretch 48 miles have been cleared and graded, ready for track, and 30 miles have been cleared.

In addition the Matanuska line, running into the Matanuska coal fields, 38 miles, has been completed.

So that out of the total of road projected of 509 miles there has been fully constructed all but 187 miles, and of this 78 miles of right of way have been either cleared and graded or cleared.

There has also been constructed 30 miles of yard tracks, switches, sidings, etc., not included in the main-line mileage given above.

The total of track built amounts to 274 miles, made up of 244 miles of main-line track and 30 miles of siding.

A full statement of the road constructed and purchased is as follows:

| | |
|---|---|
| Miles of road constructed | 244. 0 |
| Miles of yard tracks, etc | 30. 0 |
| Alaska Northern purchased | 70. 9 |
| Tanana Valley purchased | 44. 4 |
| Total | 389. 3 |

### COST PER MILE.

It is not possible during the construction of a railroad to tell what it costs per mile, because all the foundation work, the construction of bases from which to work, the equipment for construction and much of the material is a charge which must be spread over the entire completed line. If the cost per mile is figured when but a few miles of road have been built, it might be said to cost a million dollars a mile. This road four years ago could be said to have cost ten times as much per mile as it could be said to cost to-day. So that as to an uncompleted road the best estimate of cost is one that is approximate.

The best estimate that can be made to-day as to the newly constructed road is that it has cost between $70,000 and $80,000 per main-line mile, or between $60,000 and $70,000 per mile of track.

This cost per mile includes the building of the most difficult and expensive stretch of line along the entire route from Seward to Fairbanks—that running along Turnagain Arm, which is sheer rock rising precipitously from the sea for nearly 30 miles. There are miles of this road which have cost $200,000 per mile. Even to blast a mule trail in one portion of this route cost $25,000 a mile.

This cost per mile is increased by reason of the fact that it includes the expense of 48 miles of clearing and grading new right of way and of 30 miles of additional clearing and 30 miles of yard tracks, sidings, and switches.

The basis for the estimated cost of the main-line mileage above given is a table prepared by Mr. Wendt, of the Interstate Commerce Commission, as an expression of the correct deductions from total expenditures that should be made in arriving at cost exclusive of equipment and terminals which are necessary to the road as a going concern and whose cost should be spread over the whole road when completed.

The new construction, exclusive of sidings, as we have seen, is 244 miles. The total which has been appropriated for the road is $31,086,684.32. Of this amount there was a balance on hand December 31, 1918, of $1,214,407.15; thus making the amount expended $29,876,277.17.

But all of this has not gone into new construction. Much of it has gone into the purchase of the old roads referred to (Alaskan Northern and Tanana Valley) and their partial rehabilitation, to the construction of two permanent towns (Anchorage and Nenana) as termini, for rolling stock, material and supplies on hand, etc.

The full table of deductions made by Mr. Wendt is as follows:

| | |
|---|---|
| Purchase Alaska Northern R. R. | $1,157,639.49 |
| Its rehabilitation, repair, etc | 2,403,563.75 |
| Purchase Tanana Valley R. R. | 300,000.00 |
| Its rehabilitation, etc | 46,407.00 |
| Material and supplies on hand and in transit | 2,889,248.56 |
| Operation and maintenance expenditures | 628,626.99 |
| Town-site expenditures (reimbursable in part) | 304,731.52 |
| Rolling stock for use in operation, consisting of locomotives, freight cars, passenger cars, etc | 570,741.54 |
| Construction equipment, consisting of steam shovels, ditchers, unloaders, scrapers, etc | 1,382,136.59 |
| Marine equipment | 244,058.16 |
| Coal mines | 193,725.34 |
| New wharf at Anchorage | 124,618.16 |
| Shop and plant machinery | 126,703.48 |
| Machine shops, engine houses, etc | 218,314.34 |
| Plants at Anchorage and Nenana consisting of office buildings, storehouses, quarters for employees, mess houses, hospitals, heating and lighting plants, freight-handling machinery, etc | 1,538,947.17 |
| | 12,129,662.09 |

If we now deduct this amount which should be excluded as not properly chargeable to construction cost of new main-line road from the total amount expended, the result is as follows:

| | |
|---|---|
| Amount expended | $29,872,277.17 |
| Less deductions | 12,129,662.09 |
| Cost of newly constructed road | 17,742,615.08 |
| Cost per main line of track | 72,716.00 |

If the sidings and yard tracks are included, the cost per mile of track would be approximately $64,754. (No allowance is made for the 78 miles of grading and clearing.)

In arriving at his cost per mile Mr. Wendt has deducted as part of his cost construction equipment, which cost $1,382,136.59, consisting of steam shovels, ditchers, unloaders, scrapers, and other tools. This was in large part bought in the first year of the work, partially from the Panama Commission, and is in the opinion of Mr. Wendt worth as much to-day as when purchased, owing to the increase in values since the war. Its value evidently is what it would bring on the completion of the road. Had private contractors built the road, they would have had it at salvage. Much of it would have had to be bought for the maintenance of the road after completion. Whether it will be worth what it cost or how much less at that time is a question no one can answer. This is also true as to marine equipment.

The two termini which have been built at Anchorage and Nenana are permanent towns. They were built not as construction camps but with a view to the necessities of the road in the future, as permanent parts of a working railroad, and would have had to be built after construction was completed in order to properly operate and maintain the road. It is to be noted that this work has been undertaken in a region where it was necessary to build through a forested wilderness where there were no wharves at the waters edge (where indeed a way had to be dredged from the channel to the wharf) where there were no roads, no towns, no experienced labor, and where everything had to be imported a distance of from 1,500 to 5,000 miles. And it was thought best to build not a mere pioneer road like those that are driven into our western forests for the bringing out of lumber or for the reaching of some coal or gold mine, but a road that would attract passenger travel for its scenic beauties and be always the main connecting line between the interior of Alaska and the ocean. For this reason the work has been done not with the end of having so many miles of road built but of having a complete road with all the equipment for its operation, which includes not only cars, locomotives and tracks, but complete and well supplied bases and developed mines for fuel.

Two estimates were made in 1914 by the Alaskan Engineering Commission as to the cost of the road: (1) From Portage Bay to Fairbanks at an estimated cost of $59,742 per mile; (2) from Seward to Fairbanks, in which the figure estimated for the road from Kern Creek, or Mile 72 north, where all of the new construction has been done, was $55,340 per mile.

The only Government-built railroad—that across the Isthmus of Panama—cost $221,052 per mile. The only two recently built railroads in the United States are (1) the Virginian, built by H. H. Rogers, which cost exclusive of equipment $151,000 per mile with labor at from $1.35 to $1.75 per day and all machinery, fuel, rails, supplies at its door; and (2) the Milwaukee line to Puget Sound, which is estimated as having cost $130,000 per mile exclusive of equipment.

### PRESENT CONDITION.

The work has been conducted with its main base at Anchorage, which is at the head of Cook's Inlet. This point was chosen as the nearest point from which to construct a railroad into the Matanuska coal fields. That was the primary objective of the railroad, to get at the Matanuska coal. From Anchorage it was also intended to drive farther north through the Susitna Valley and across Broad Pass, and to the south along Turnagain Arm toward the Alaska Northern track. To secure coal for Alaska was the first need. So in addition to Anchorage as a base, one was also started at Nenana on the Tanana River from which to reach the Nenana coal fields lying to the south. If these two fields were open, one would supply the coast of Alaska and one the interior. This program has been acted upon, with the result that the Matanuska field is open to tide water with a down-grade road all the way. The Nenana road has been pushed far enough south to touch a coal mine near the track which may obviate the immediate necessity for reaching into the Nenana field proper. From Seward north and from Anchorage south the road has been built so that last fall there was through communication from Seward to Anchorage, Matanuska, and the Susitna Valley.

There is an open stretch across Broad Pass to connect the Susitna Valley with the road coming down from Nenana, and another reach of a few miles on the north of the Tanana River before connecting with the Tanana Valley road outside of Fairbanks. These gaps closed, there will be through connection between Seward and Fairbanks. The accompanying map shows the road's condition.

### OVERHEAD.

The road has been done by men on the job in Alaska, not by men in Washington. The only bureau maintained in Washington consisted of four clerks in one room. All the rest of the force is in Alaska, with the exception of the purchasing division in Seattle.

The commission adopted the system of construction approved by the most competent engineers consulted at the beginning of construction—a combination of letting out the work to small contractors and of days labor. The only contractor who ever talked of building the road asked a guarantee against loss from the Government—what we now know as a "cost-plus contract"—and as this would involve a large staff of Government superintendents and checking officials with no guarantee of a minimum cost to the Government but every reason to believe that a maximum cost would be reached, it was thought wise to follow the course we have pursued. As the price of labor, supplies, and other things have risen, we have not had to pay a contractor a percentage on the increasing cost.

In 1918 the wage employees numbered 3,529 and the salaried employees 725.

The road has 1,982 wage employees and 441 salaried employees as estimated for in the Book of Estimates for 1920. (A clerical error in this book transposed "Salaries" and "Wages" so as to make it appear that a greater amount was proposed for salaries than for wages.)

**Taking the week ending Saturday May 18, 1918, as a typical week, the number of employees and their distribution as to whether they were engaged in supervisory and clerical places or as workmen was as follows:**

| | Total. | Supervisory and clerical. | Workmen. |
|---|---|---|---|
| Engineer in charge | 35 | 31 | 4 |
| Shop and yards | 53 | 9 | 44 |
| Track, bridge, ballast | 257 | 8 | 249 |
| Receiving and forwarding agent | 35 | 21 | 14 |
| Machine shops | 62 | 4 | 58 |
| Marine ways and dredge "Sperm" | 100 | 4 | 96 |
| Store department | 90 | 26 | 64 |
| Employment bureaus | 18 | 3 | 15 |
| Transportation department | 34 | 2 | 32 |
| Disbursing office | 7 | 7 | |
| Accounting department | 13 | 13 | |
| Base hospital | 15 | 3 | 12 |
| Town-site office | 15 | 2 | 13 |
| Telephone and telegraph department | 36 | 7 | 29 |
| Mining department | 140 | 2 | 138 |
| Turnagain Arm district | 185 | 5 | 180 |
| Talkeetna district | 1 | | 1 |
| Location surveys | 20 | 2 | 18 |
| | 1,116 | | |
| Station man and laborers | 159 | | 159 |
| Grand total all employees Anchorage division | 1,275 | 149 | 1,126 |

RATES.

It is difficult to know what rates should be charged on such a railroad as this, which is as yet in the process of building, which originates so little traffic as to be negligible, and will not in all likelihood for some years pay operating and maintenance charges, without any return on investment. Plainly the traffic can not be made to bear charges that would be reasonable from the standpoint of making the railroad pay its own way. To do this would be to retard the growth of Alaska and of the railroad itself. The freight rates on the Alaska Railroad are from 25 to 50 per cent of the rates charged by other Alaska roads. The Copper River and the Skagway roads charge from twice as much to four times as much as does the Government road. If, therefore, there is anything in the test, so often applied by the Interstate Commerce Commission in judging of the reasonableness of a rate by the rates charged on similar traffic on neighboring roads, the rates on the Alaska road certainly meet that test.

Here are a few comparisons in cents per 100 pounds on less than carload lots for a 60-mile haul on the Alaskan Railroad and the Copper River Railroad:

| | Alaska Railroad. | Copper River Railroad. |
|---|---|---|
| Household goods, secondhand | 32 | 160 |
| Canned goods | 49 | 109 |
| Flour | 49 | 109 |
| Eggs | 69 | 216 |
| Fruit, dried | 49 | 134 |

The rates now in force on the Alaska road are approximately the same as those which the Railroad Commission of the State of Washington approves on the Seattle, Port Angeles & Western Railroad between Maynard and Majestic, a distance of 60 miles, as the following comparison furnished by the Interstate Commerce Commission shows:

| Commodities. | Government railroad. | Seattle, Port Angeles & Western R. R. |
|---|---|---|
| | *Per ton.* | *Per ton.* |
| Household goods | $6.40 | $13.80 |
| Canned goods | 9.80 | 9.30 |
| Flour | 9.80 | 9.30 |
| Eggs | 13.80 | 11.50 |
| Dried fruit | 9.80 | 10.50 |
| Fresh fruit | 16.20 | 13.80 |
| Meat, cured | 9.80 | 9.30 |
| Kerosene | 11.40 | 10.50 |
| Sugar | 9.80 | 9.30 |
| Vegetables | 16.20 | 20.70 |
| Butter | 13.80 | 11.50 |
| Hardware | 13.80 | 11.50 |

It would hardly be regarded as unfair to say that on the Alaskan road the rates should be twice as high as on the main line of the Northern Pacific in Washington, considering the fact that the Northern Pacific has several hundred thousand times the density of traffic per mile that the Alaskan Railroad has. Yet a comparison of the two rates shows that the rates on the Alaska road are not that high by from 25 to 50 per cent. They are indeed but a small percentage higher than many of the rates on the Southern Railway running immediately out of this city, which carries in any one hour more traffic than the Alaskan road carries in a year. I am satisfied, however, that the rates in existence on the Alaskan road are not those which will best promote the interest of the Territory and in the end that of the road. And last summer I asked Mr. E. O. McCormick, vice president of the Southern Pacific, in charge of traffic, to make a study of the actual conditions in Alaska with the purpose of devising a simpler tariff which would induce whatever traffic could be induced to move over that road and still preserve some justifiable relation between commodities. This is not an easy task. And there must be some experiments tried before anything like a stable schedule can be arrived at.

### WATER TRANSPORTATION.

One of the serious disadvantages that any new enterprise in Alaska suffers under is the long distance by water which all machinery and supplies must be carried. During the war this has been particularly embarassing in the carrying on of this work. Because of the highness of the rates charged and the uncertainty of the movement, the commission gave over employing the regular lines and chartered a transport from the War Department, which ran from Seattle to Anchorage for two seasons. This service is invaluable to the railroad. While we were without it last season, some such arrangement must be renewed if the railroad is to be completed at as fair a figure as has been thus far maintained. Some months since negotiations were entered into with the Shipping Board looking to the establishing of a line between Puget Sound and Alaskan ports which would serve the railroad or at least to the putting on of a single boat to Anchorage and Seward. The board offered to charter to the commission a new steel ship at $25,000 per month, which was thought to be too high a figure, and negotiations are still under way in the hope that this offer can be bettered.

### MATANUSKA COAL.

By decisions of the Commissioner of the Land Office all of the claims in the Matanuska coal field were set aside, and by act of Congress a leasing bill was put into effect over the entire field. Under this law, a number of claims must be reserved to the Government. The field was surveyed and some of the most promising portions of the field have been so reserved.

Two leases have been entered into by the Government, one with Lars Netland, a miner, who has as a backer Mr. Fontana, a business man of San Francisco, and the other to Oliver La Duke and associates. Neither of these parties have any other interests of any kind so far as is known in Alaska or any connection with any railroad, and neither of them have been successful in developing any large amount of coal. There are many thousands of acres in this field which are open for lease and which will be leased to any responsible parties who will undertake their development. There is no possibility of monopolizing this field even if some one wished to do so, for the Government reserves are kept to be operated in case such monopoly should arise. Thus far, however, the Government in operating its own mine has been no more successful than the private lessees, for the coal is so badly broken and faulted that exploration work to follow the seam must be undertaken before development work can be wisely done. And this is being undertaken. Government experts who have examined this field do not promise without further exploring a larger output of coal from this field than 150,000 tons a year.

### POPULATION.

The population of Alaska has fallen off during the war. She sent, I am told, 5,000 men into the Army, the largest proportion to population sent by any part of the United States. The high cost of labor and materials closed some of the gold mines, and the attractive wages offered by war industries drew labor from Alaska to the mainland. All prospecting practically closed. But with the return of peace there is evidence of a new movement toward that Territory which should be given added confidence in its future by the completion of the Alaskan Railroad.

Secretary Lane personally prepared this memorandum, which I have submitted for the record, and the information as to the cost per mile and all that kind of thing is in it, which in detail has been brought up to date by the report which Mr. McPherson will submit [reading]:

Mr. J. L. McPherson, under the direction of the Secretary of the Interior, has compiled complete data with which to thoroughly inform the committee with respect to all the work which has been accomplished and what it is planned to accomplish up to the date of completion. Mr. McPherson was engineer in charge of the original surveys for the railroad transportation development of Alaska by the Government in 1906 and he has kept himself acquainted with the construction of the Government railroad from independent yearly examinations. He is prepared to submit to the committee tables of estimates, and exhibits covering in detail every feature of the project from its inception to the anticipated date of completion. I understand that eventually this committee will determine whether to report favorably or adversely upon the bill (H. R. 7417) introduced on July 16, 1919, by your chairman and entitled "A bill to amend an act of Congress approved March 12, 1914, authorizing the President of the United States to locate, construct, and operate railways in the Territory of Alaska and for other purposes." If the bill is passed authorizing an appropriation of $17,000,000, and conditions as to labor, prices, etc., remain as at present, Secretary Lane, Mr. McPherson, and all the rest of us are confident that with that sum appropriated as needed, the Alaskan Railroad can be finished and put into complete operation.

JOHN W. HALLOWELL,
*Assistant to Secretary of Interior.*

Mr. JOHNSON. How many commissioners are there now?

Mr. HALLOWELL. Mr. Edes, the chairman, is the only active commissioner.

Mr. JOHNSON. He is the only one on the pay roll?

Mr. HALLOWELL. Yes, sir. Col. Mears went into the Army service.

Mr. JOHNSON. Have you any acting commissioners in place of the two that are not serving?

Mr. HALLOWELL. No; the organization now is with three resident engineers in Alaska, Mr. Gerig, Mr. Weir, and Mr. Browne, each in charge of a division.

Mr. JOHNSON. Did the original act call for a commission?

Mr. HALLOWELL. The act did not; the President appointed a commission on the recommendation of the Secretary.

Mr. JOHNSON. I want to ask another question before you get away from that. Is Mr. McPherson in the employ of the Department of the Interior?

Mr. HALLOWELL. He is in the employ of the Alaskan Engineering Commission.

Mr. JOHNSON. Is he on the railroad pay roll?

Mr. HALLOWELL. Yes, sir; the Alaskan Engineering Commission pay roll.

Mr. JOHNSON. But he is not a commissioner?

Mr. HALLOWELL. He is not a commissioner. Secretary Lane selected Mr. McPherson of all men fitted to analyze in detail everything in connection with the building of the line from its inception to the present date.

Mr. JOHNSON. I want to ask you about the town of Anchorage. Has that been a successful financial project?

Mr. HALLOWELL. Will you ask that of Mr. McPherson who lived in Alaska?

Mr. JOHNSON. I want to ask somebody connected with the Interior Department who authorized the model town up there.

Mr. HALLOWELL. Mr. McPherson is connected with the Interior Department now, sir, and was selected because he is familiar with that place and with the whole situation.

Mr. JOHNSON. Who handles the model town of Anchorage? Who is the chief?

Mr. HALLOWELL. That is handled by Mr. William Gerig, resident engineer in charge of the Anchorage division.

Mr. DOWELL. How long have you been connected with the department?

Mr. HALLOWELL. I have only been connected with the department four months.

Mr. DOWELL. What were you doing prior to that?

Mr. HALLOWELL. Prior to that time I was with Mr. Hoover for two years, since May, 1917.

Mr. DOWELL. Where do you live?

Mr. HALLOWELL. In Massachusetts.

Mr. DOWELL. You are not an engineer?

Mr. HALLOWELL. No; although for 16 years I was connected with an engineering concern.

Mr. JOHNSON. Have you seen this Alaska railroad, any part of it?

Mr. HALLOWELL. No, sir; I have not.

Mr. DOWELL. Then this document that you prepared is merely the information that you have secured through others since you have been connected with the department for the last four months?

Mr. HALLOWELL. Yes, sir. We have in my office every morning a meeting of Mr. McPherson, Mr. Ryan, Mr. Edes, and myself, to go over the details, the mail, wires, etc.

Mr. JOHNSON. Mr. Edes is the commissioner?

Mr. HALLOWELL. Yes, sir. After getting up this data, I then, as the personal representative of the Secretary, took it up with him.

Mr. JOHNSON. Let me ask you—Mr. Edes is the only remaining commissioner of the Alaska Railway Commission?

Mr. HALLOWELL. Yes, sir.

Mr. JOHNSON. And he is in the city of Washington?

Mr. HALLOWELL. Yes, sir.

Mr. JOHNSON. And one other former commissioner is in the Army and another is Governor of Alaska?

Mr. HALLOWELL. Yes, sir.

Mr. JOHNSON. How much time does Mr. Edes spend in the city of Washington?

Mr. HALLOWELL. He is here now in very poor health.

Mr. JOHNSON. Now, we have got one commissioner in the Army, one the Governor of Alaska, and the other here in poor health?

Mr. HALLOWELL. Yes, sir.

Mr. JOHNSON. Do you think that is the way that the Government should go about a business proposition like the building of a $35,000,000 railroad?

Mr. HALLOWELL. The three residential men are very able men.

Mr. JOHNSON. Who are they?

Mr. HALLOWELL. William Gerig, R. J. Weir, and F. D. Browne. They are at the head of the divisions in Alaska, and the work is being prosecuted by them under the general supervision of the Washington headquarters.

Mr. JOHNSON. Then, as a matter of fact, the commission plan of building a railroad was a failure?

Mr. HALLOWELL. No, it was interfered with by the war.

Mr. JOHNSON. It was interfered with by the commissioners getting away.

Mr. HALLOWELL. Yes.

Mr. JOHNSON. Now, if the commission is a failure, and two of the commissioners are gone away, what is the necessity of keeping one commissioner in poor health here in Washington?

Mr. HALLOWELL. His knowledge of the situation, Mr. Edes having been the locating engineer, having been in Alaska almost since the inception of the project, is very valuable.

Mr. DOWELL. Does he direct it from here?

Mr. HALLOWELL. Yes. He is the directing official from here.

Mr. DOWELL. How long has he been in Washington?

Mr. HALLOWELL. Four months ago, when I came into the Interior Department, Mr. Edes was away on account of his health. He has been here steadily for the last two months, I think.

Mr. JOHNSON. What is his salary?

Mr. HALLOWELL. I am not sure—$10,000 a year, I think.

Mr. JOHNSON. And he would undertake to direct the further construction of the railroad and the expenditure of this additional $17,000,000?

Mr. HALLOWELL. No; I think that if an appropriation is made——

Mr. JOHNSON (interposing). As he has directed the work in the past?

Mr. HALLOWELL. I think if this appropriation is made the Secretary has in mind immediately taking steps to make a more permanent organization, as the original organization was disrupted by the war and by Mr. Edes's health; but at present with the amount of money we have to expend I think an analysis will show that the work is being perfectly well done.

Mr. JOHNSON. And you are a railroad builder?

Mr. HALLOWELL. Well, I have been connected with a firm that has done a great deal of construction work.

Mr. JOHNSON. Now let me ask you—as a practical proposition we have spent $35,000,000; it is now proposed to spend one-third more to construct, according to your statement at least 100 miles on a road less than 500 miles long—and how long is the other gap?

Mr. HALLOWELL. About 134 miles all told. The 100-mile gap is the important part.

Mr. JOHNSON. Well, a third more of construction to be done?

Mr. HALLOWELL. Not quite.

Mr. JOHNSON. At about one third more cost.

Mr. HALLOWELL. Yes.

Mr. JOHNSON. Have you given any thought as to why that should not be done by the War Department outright?

Mr. HALLOWELL. No, sir; because this whole proposition was started in 1914 and has been prosecuted ever since by the Interior Department.

Mr. JOHNSON. As a matter of fact it amounts to a brand new proposition now. The amount originally authorized to be appropriated has been appropriated and spent; and the railroad in order to go ahead must have a large sum more.

Mr. HALLOWELL. Yes, sir.

Mr. JOHNSON. At one end, it amounts to being back to about where it was when the Government itself took up the Alaska Northern Railroad.

Mr. HALLOWELL. I should hardly admit that. This line is now under construction; the force is up there; the supplies are very largely up there, and the organization is complete.

Mr. JOHNSON. Except the commission.

Mr. HALLOWELL. Yes; and it is complete now with the work that is being prosecuted.

The CHAIRMAN. It might possibly have been all right to have had this thing done by the Engineer Department of the Army if it started that way, although I don't think so.

Mr. JOHNSON. We have quite an army now; we have quite a bit of machinery and great quantities of supplies.

The CHAIRMAN. You have got an organization up there under the Interior Department that would cost us millions of dollars to reorganize under the Army.

Mr. HALLOWELL. If you assume that this $35,000,000 has been well expended—which it has, in our humble opinion—then why disrupt an organization that is in full swing and substitute another?

Mr. DOWELL. You have suggested an entirely new organization, so far as the commission is concerned?

Mr. HALLOWELL. No; not necessarily. I do not and can not speak for the Secretary in that respect.

Mr. WEAVER. How much of the $35,000,000 was spent before the war and before Mr. Edes left Alaska?

Mr. HALLOWELL. These estimates of Mr. McPherson's will show that. I haven't the figures in my mind.

Mr. WEAVER. When was the bulk of the $35,000,000 expended?

Mr. HALLOWELL. As appropriated by Congress from year to year. There is an annual appropriation. The records of Congress will show exactly how that money has been appropriated, because it is appropriated by the Appropriations Committee each year.

The CHAIRMAN. Mr. McPherson, we will hear you now. Before Mr. McPherson proceeds I will place in the record his report, being a summary of detailed estimates on work neceesary to complete the Government railroad in Alaska. The report referred to follows:

### SUMMARY OF DETAILED ESTIMATES TO COMPLETE UNITED STATES GOVERNMENT ALASKA RAILROAD.

WASHINGTON, D. C., *July 9, 1919.*

SIR: Estimate of cost to complete the United States Government Alaska Railroad submitted to you June 14, 1919, was based on plans to complete by December 31, 1921; all construction work except the erection of the bridge across the Tanana River, the cost of which, however, was included in the estimate. This plan was based on a closely adjusted working program that contemplated a maximum working force during the open season of 1919, 1920, and 1921.

As it will not now be possible to increase the construction force this season, due to curtailment of working program, it is doubtful if the work can be completed by the end of 1921. Provision should, therefore, be made for the cost of maintenance and operation, general, and other expenses for the year 1922 in the additional authorization requested of Congress.

| | |
|---|---|
| Estimated cost of project based on program to complete in 1921 | $50,436,971 |
| Authorized and appropriated by Congress | 35,000,000 |
| Balance required | 15,436,971 |
| Maintenance, operation, general, and other expenses for the year 1922 (approximate) | 1,563,029 |
| Additional authorization and appropriation required to complete project. | 17,000,000 |

It is my judgment that all of the additional $1,563,029 will not be required, as the road should be in receipt of considerable revenue before the end of the year 1922, but as we have no data at this time on which to base any estimate of the amount of this revenue, authorization should be requested from Congress in the amount of $17,000,000.

Respectfully submitted.

J. L. MCPHERSON,
*Engineer, Alaskan Engineering Commission.*

Hon. FRANKLIN K. LANE,
*Secretary of the Interior.*

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WASHINGTON, D. C., *June 14, 1919.*

SIR: Transmitted herewith is a compilation of the data of the estimated amount and cost of work to complete the construction of the United States Government Alaska Railroad. This data I have assembled from the detailed estimates of R. J. Weir, William Gerig, and F. D. Browne, engineers in charge, respectively, of the Seward, Anchorage, and Fairbanks Divisions, W. J. H. Fogelstrom, bridge engineer, and B. H. Barndollar, examiner of accounts.

Data as to the original estimates I have compiled from the report of the Alaskan Engineering Commission, 1915, Sixty-fourth Congress, first session, House of Representatives, Document No. 610, part 2.

Supplemental data relating to mineral output and activities, homestead entries, and Alaskan commerce are from the reports and data furnished by the United States Geological Survey, General Land Office and Bureau of Foreign and Domestic Commerce.

The estimates have been compiled on a basis to complete construction by the end of the year 1921, except the erection of the bridge across the Tanana River, which is deferred until rail is laid through from the coast, the cost of which is however included.

I have made a close study of the detailed estimates of the engineers in charge, and from my personal knowledge of the line, believe the total is liberal. Many of the cost units are undoubtedly too liberal, while others will be found to be low, and in some sections additional work to that provided for in the estimates will probably be necessary to bring the road for its entire length to the degree of completeness contemplated.

With a thorough consideration of all factors and the benefit of knowledge gained by my personal investigation of the work in 1918, it is my judgment that, barring unforeseen contingencies, the road will be completed to the standard contemplated within the limits of the total of all estimates.

Respectfully submitted.

J. L. McPherson,
*Engineer, Alaskan Engineering Commission.*

Hon. Franklin K. Lane,
*Secretary of the Interior.*

*Estimate of cost to complete United States Government Alaska Railroad, Mar. 31, 1919.*

| | | | |
|---|---|---|---|
| **Road, Alaska Northern Railway:** | | | |
| Reconstruction— | | | |
| Mile 0 to mile 12, inclusive | | $22,582.55 | |
| Mile 13 to mile 30, inclusive | | 132,264.81 | |
| Mile 31 to mile 45, inclusive | | 115,158.27 | |
| Mile 46 to mile 70.7, inclusive | | 1,448,177.01 | |
| Total to complete, reconstruction Alaska Northern Railway | | | $1,718,182.64 |
| New work— | | | |
| Mile 70.7 to mile 79.3 | | $1,067,330.35 | |
| Mile 79.3 to mile 114.7 | | 259,438.90 | |
| Mile 114.7 to mile 227 | | 285,103.34 | |
| Matanuska Branch | | 26,810.40 | |
| Mile 228 to mile 265, inclusive | | 1,298,709.87 | |
| Mile 266 to mile 290, inclusive | | 2,877,992.86 | |
| Mile 291 to mile 365, inclusive | | 5,123,066.29 | |
| Mile 366 to mile 414, inclusive | | 357,015.20 | |
| Tanana River Bridge | | 1,221,298.80 | |
| Mile 415 to mile 470.7 | | 1,168,541.04 | |
| Wagon road construction between mile 265 and mile 365 | | 200,000.00 | |
| Distribution and handling supplies | | 144,000.00 | |
| | | | 14,029,307.05 |
| Chatanika Branch, rehabilitation | | | 84,300.00 |
| Terminals | | | 500,295.90 |
| Rolling stock | | | 1,081,366.68 |
| Hospital maintenance, Anchorage and Nenana | | | 112,500.00 |
| General expenditures at Seward, Anchorage, Nenana, Seattle, and Washington | | | 625,000.00 |
| Maintenance and operation to Dec. 31, 1921 (estimated) | | $3,515,906.00 | |
| Revenue to Dec. 31, 1921 (estimated)—deduct. | | 799,000.00 | |
| Estimated expenses in excess of revenue to Dec. 31, 1921 | | | 2,716,906.00 |
| Current obligations, Mar. 31, 1919, in excess of available funds (approximate) | | | 240,736.56 |
| Total | | | 21,108,594.83 |
| Deduct— | | | |
| Materials and supplies on hand or in transit, paid Mar. 31, 1919 | $2,869,243.83 | | |
| Less materials and supplies unapplied and on hand upon completion of construction (estimated) | 1,200,000.00 | | |
| | | 1,669,243.83 | |
| Deficiency appropriation, June, 1919 | | 1,964,351.00 | |
| | | | 3,633,594.83 |
| Additional appropriations required to complete and finance project | | | 17,475,000.00 |

### TOTAL APPROPRIATIONS TO COMPLETE AND FINANCE PROJECT.

| | |
|---|---|
| Amount of previous appropriations | $30,997,620.00 |
| Deficiency appropriation, June, 1919 | 1,964,351.00 |
| Additional appropriation required to complete and finance project | 17,475,000.00 |
| Total appropriations necessary to complete and finance project | 50,436,971.00 |
| Authorization by act of Congress | 35,000,000.00 |
| Additional authorization required | 15,436,971.00 |
| Total | 50,436,971.00 |
| Balance remaining under original authorization | 2,038,029.00 |
| Additional authorization required | 15,436,971.00 |
| Additional appropriation required to complete and finance project | 17,475,000.00 |
| Distribution between labor and supplies: | |
| Labor | 9,789,807.98 |
| Material and supplies | 7,685,192.02 |
| | 17,475,000.00 |
| Distribution of labor between salary and wages: | |
| Salaries | 1,958,000.00 |
| Wages | 7,831,807.98 |
| | 9,789,807.98 |

### MILE 0 TO MILE 12, INCLUSIVE.

| | Labor. | Materials, supplies, equipment. | Total. |
|---|---|---|---|
| Clearing, 10 acres, at $100 | $800.00 | $200.00 | $1,000.00 |
| Riprap, fill at old trestle 3, 3,000 cubic yards, at $1 | 2,250.00 | 750.00 | 3,000.00 |
| Trestle, Lowell Creek, 500 linear feet, at $17.50 | 2,916.65 | 5,833.35 | 8,750.00 |
| Tunnels, timbering portals and 10-foot main tunnel: | | | |
| Lumber in place, 19,800 feet b. m., at $60 $1,188.00 | | | |
| Iron in place, 990 pounds at $0.10 99.00 | | | |
| Excavation, 20 linear feet, at $30 600.00 | | | |
| | 629.00 | 1,258.00 | 1,887.00 |
| Buildings, 1 section house, mile 1 | 900.00 | 2,100.00 | 3,000.00 |
| Reconstructing telephone and telegraph, 4 miles, at $500 | 1,333.35 | 666.65 | 2,000.00 |
| Total | 8,829.00 | 10,808.00 | 19,637.00 |
| Engineering, superintendence, and other contingencies, 15 per cent | 1,324.35 | 1,621.20 | 2,945.55 |
| Total estimate of cost | 10,153.35 | 12.429.20 | 22,582.55 |

### MILE 13 TO MILE 30, INCLUSIVE.

| | | | |
|---|---|---|---|
| Clearing, 64.6 acres, at $100 | $5,168.00 | $1,292.00 | $6,460.00 |
| Grading (widening cuts and fills): | | | |
| 10,179 cubic yards common excavation, at $0.75 | 5,725.70 | 1,908.55 | 7,634.25 |
| 33,399 cubic yards common borrow, at $0.75 | 18,786.94 | 6,262.31 | 25,049.25 |
| 21,278 cubic yards solid rock excavation, at $1.35 | 19,150.20 | 9,575.10 | 28,725.30 |
| 53,300 cubic yards overhaul, at $0.015 | 533.00 | 266.50 | 799.50 |
| Track: | | | |
| 5.25 miles main line (relining), at $500 ($2,625.00)<br>0.38 miles sidings (relaying), at $1,000 ($380.00) | 2,253.75 | 751.25 | 3,005.00 |
| Ties (main line and sidings): 4,500 new ties in place, at $0.75 | 1,687.50 | 1,687.50 | 3,375.00 |
| Ballast (main line and sidings), 29,632 cubic yards gravel in place, at $0.75 | 16,668.00 | 5,556.00 | 22,224.00 |
| Riprap, 7,560 cubic yards loose rock in place, at $1 | 5,670.00 | 1,890.00 | 7,560.00 |
| Culverts and track boxes: | | | |
| 24,236 feet b. m. native lumber in place, at $55 ($1,332.98)<br>976 pounds iron in place, at $0.10 ($97.60) | 643.75 | 786.83 | 1,430.58 |

## MILE 13 TO MILE 30, INCLUSIVE—Continued.

| | Labor. | Materials, supplies, equipment. | Total. |
|---|---|---|---|
| Section houses: 2 standard section houses, at $3,000 | $1,800.00 | $4,200.00 | $6,000.00 |
| Reconstructing telephone and telegraph, 5.5 miles, at $500 | 1,833.35 | 916.65 | 2,750.00 |
| | 79,919.99 | 35,092.89 | 115,012.88 |
| Engineering, superintendence and other contingencies, 15 per cent | 11,987.99 | 5,263.94 | 17,251.93 |
| Total | 91,907.98 | 40,356.83 | 132,264.81 |

## MILE 31 TO MILE 45, INCLUSIVE.

| | | | |
|---|---|---|---|
| Clearing 28.4 acres, at $100 | $2,292.00 | $548.00 | $2,840.00 |
| Grading (widening cuts and fills): | | | |
| 1,303 cubic yards common excavation, at $0.75 ($977.25) | 688.62 | 288.62 | 44,149.50 |
| 5,018 cubic yards common borrow, at $0.75 ($3,763.50) | 2,822.62 | 940.88 | |
| 28,525 cubic yards solid rock excavation, at $1.35 ($38,508.75) | 25,672.47 | 12,836.28 | |
| 60,000 cubic yards overhaul, at $0.015 ($900) | 600.00 | 300.00 | |
| Track: | | | |
| 7.5 miles line, relining, at $500 ($3,750)<br>0.51 miles sidings, relaying, at $1,000 ($510) | 3,395.00 | 865.00 | 4,260.00 |
| Ties (main line and sidings): 950 new ties in place, at $0.75 | 356.25 | 356.25 | 712.50 |
| Ballast (main line and sidings): 30,320 cubic yards gravel in place, at $0.75 | 17,055.00 | 5,685.00 | 22,740.00 |
| Riprap, 13,440 cubic yards loose rock in place, at $1 | 10,080.00 | 3,360.00 | 13,440.00 |
| Culverts: | | | |
| 23,675 feet b. m. native lumber in place, at $55 ($1,302.13)<br>1,935 pounds iron in place, at $0.10 ($193.50) | 670.93 | 824.70 | 1,495.63 |
| Water stations: | | | |
| 1 tank and pump (mile 40), at $4,500<br>1 gravity standpipe (mile 44), at $1,000 | 1,650.00 | 3,850.00 | 5,500.00 |
| Section house: 1 standard section house, at $3,000 | 900.00 | 2,100.00 | 3,000.00 |
| Reconstructing telegraph and telephone, 4 miles, at $500 | 1,333.35 | 666.65 | 2,000.00 |
| Total | 67,516.24 | 32,621.39 | 100,137.63 |
| Engineering, superintendence, and other contingencies, 15 per cent | 7,089.10 | 7,931.54 | 15,020.64 |
| Total | 74,605.34 | 40,552.93 | 115,158.27 |

## MILE 46 TO MILE 70.7, INCLUSIVE.

| | | | |
|---|---|---|---|
| Clearing, 110 acres, at $100 | $8,800.00 | $2,200.00 | $11,000.00 |
| Grading (filling bridges and raising grade): | | | |
| 9,946 cubic yards common excavation (scratch work), at $0.75 ($7,459.50) | 5,594.63 | 1,864.87 | 570,709.80 |
| 570,702 cubic yards common borrow (filling bridges), at $0.50 ($285,351) | 214,013.25 | 71,337.75 | |
| 198,950 cubic yards common borrow (raising grade), at $0.75 ($149,212.50) | 111,909.37 | 37,303.13 | |
| 95,028 cubic yards solid rock excavation, at $1.35 ($128,287.80) | 85,525.20 | 42,762.60 | |
| 26,600 cubic yards overhaul, at $0.015 ($399) | 266.00 | 133.00 | |
| Track: | | | |
| 9.3 miles main line (relining and shifting), at $500 ($4,650)<br>1.8 miles sidings and switch back, at $1,000 ($1,800) | 4,837.50 | 1,612.50 | 6,450.00 |
| Ties (main line sidings): 14,550 new ties in place, at $0.75 | 5,456.25 | 5,456.25 | 10,912.50 |
| Ballast (main line and sidings), 56,700 cubic yards gravel in place, at $0.75 | 31,893.75 | 10,631.25 | 42,525.00 |
| Riprap, 4,300 cubic yards loose rock in place, at $1 | 3,225.00 | 1,075.00 | 4,300.00 |
| Culverts and track boxes: | | | |
| 16,281 feet b. m. native lumber in place, at $55 ($895.46)<br>15,459 pounds iron in place, at $0.10 ($1,545.90)<br>28,350 linear feet logs in place, at $0.25 ($7,087.50) | 4,287.99 | 5,240.87 | 9,528.86 |
| Trestles, 2,145 linear feet, at $17.50 | 12,512.50 | 25,025.00 | 37,537.50 |
| Bridges: | | | |
| 1,681,770 feet b. m. fir lumber in place, at $70 ($117,723.90)<br>716,228 pounds iron in place, at $0.10 ($71,622.80)<br>3,170 linear feet logs in place, at $0.25 ($792.50)<br>3,325 cubic yards excavation, at $2.50 ($8,312.50)<br>3,049 cubic yards concrete, at $20 ($60,980) | 86,477.23 | 172,954.47 | 259,431.70 |

## MILE 46 TO MILE 70.7, INCLUSIVE—Continued.

| | Labor. | Materials, supplies, equipment. | Total. |
|---|---|---|---|
| Tunnels: | | | |
| Enlarging to Interstate Commerce Commission standard section, 3,096 linear feet, at $30 ($92,880) | $67,926.00 | $33,963.00 | $101,889.00 |
| 14 timber portals, native lumber in place, 138,600 feet b. m. at $60 ($8,316) | | | |
| Iron in place, 6,930 pounds, at $0.10 ($693) | | | |
| Snow sheds, 1,500 linear feet, at $125 | 140,625.00 | 46,875.00 | 187,500.00 |
| Water stations: | | | |
| 1 pump and tanks, $4,500 | 2,800.00 | 6,650.00 | 9,500.00 |
| 1 gravity tank, $4,000 | | | |
| 1 gravity stand pipe, $1,000 | | | |
| Section houses: 2 standard section houses, at $3,000 | 1,800.00 | 4,200.00 | 6,000.00 |
| Reconstructing telephone and telegraph, 4 miles, at $500 | 1,333.35 | 666.65 | 2,000.00 |
| Total | 789,333.02 | 469,951.34 | 1,259,284.36 |
| Engineering, superintendence and other contingencies, 15 per cent | 118,399.95 | 70,492.70 | 188,892.65 |
| Total estimate of cost | 907,732.97 | 540,444.04 | 1,448,177.01 |

NOTE.

*Grading.*—Material for constructing switch back to eliminate bridge 71 during construction is included in above quantities.

*Tunnels.*—Allowances have been made for enlarging all 7 tunnels, totaling 3,396 linear feet (less 300 feet now under contract) to standard Interstate Commerce Commission section 17 feet with 22 feet clearance, present width 13 feet, clearance 18 feet 6 inches.

## MILE 70.8 TO MILE 79.3.

| | Labor. | Materials, supplies, equipment. | Total. |
|---|---|---|---|
| Grading, 35,781 cubic yards solid rock (widening fills for snow sheds and riprapping) at $1.35 | $32,202.90 | $16,101.45 | $48,304.35 |
| Track (main line laid): 0.23 mile sidings (relaying with old 56-pound rail) at $1,000 | 172.50 | 57.50 | 230.00 |
| Ties: 600 new ties in place at $0.75 | 225.00 | 225.00 | 450.00 |
| Ballast (main line and sidings), 9,500 cubic yards gravel in place at $0.75 | 5,343.75 | 1,781.25 | 7,125.00 |
| Culverts and track boxes: | | | |
| 8,900 feet b. m. native lumber at $55 | | | |
| 145 pounds iron at $0.10 | 226.80 | 227.20 | 504.00 |
| Snow sheds, 6,900 linear feet at $125 | 215,625.00 | 646,875.00 | 862,500.00 |
| Water station (Girdwood) 1 pump and tank at $4,500 | 1,350.00 | 3,150.00 | 4,500.00 |
| Section houses (Girdwood), 1 standard section house, at $3,000 | 900.00 | 2,100.00 | 3,000.00 |
| Warehouses (Girdwood), 1 combination freight and passenger shelter shed at $1,500 | 450.00 | 1,050.00 | 1,500.00 |
| Total | 256,495.95 | 671,617.40 | 928,113.35 |
| Engineering, superintendence and other contingencies, 15 per cent | 38,474.39 | 100,742.61 | 139,317.00 |
| Total | 294,970.34 | 772,360.01 | 1,067,330.35 |

## MILE 79.3 TO MILE 114.7.

| | | | |
|---|---|---|---|
| Ballasting: | | | |
| Mile 79.3 to mile 91, 22,000 cubic yards, $17,600 | $15,400.00 | $6,200.00 | $21,600.00 |
| Mile 91 to mile 114.35, 5,000 cubic yards, $4,000 | | | |
| Snow sheds, mile 80, 550 linear feet | 28,000.00 | 82,000.00 | 110,000.00 |
| Riprapping embankment: | | | |
| Mile 81, 4,000 cubic yards, $5,000 | 17,640.00 | 12,985.00 | 30,625.00 |
| Mile 88, 1,000 cubic yards, $1,250 | | | |
| Mile 89, 2,000 cubic yards, $2,500 | | | |
| Mile 90, 2,000 cubic yards, $2,500 | | | |
| Mile 91, 2,000 cubic yards, $2,500 | | | |
| Mile 96, 1,000 cubic yards, $1,250 | | | |
| Mile 99, 1,000 cubic yards, $1,250 | | | |
| Mile 100, 1,000 cubic yards, $1,250 | | | |
| Mile 101, 2,000 cubic yards, $2,500 | | | |
| Mile 102, 5,000 cubic yards, $6,250 | | | |
| Mile 103, 2,000 cubic yards, $2,500 | | | |
| Mile 104, 1,000 cubic yards, $1,250 | | | |
| Mile 114, 500 cubic yards, $625 | | | |

### MILE 79.4 TO MILE 114.7—Continued.

| | Labor. | Materials, supplies, equipment. | Total. |
|---|---|---|---|
| **Rock fill, bridge 18 at mile 84, length 44,000 feet, 75,000 cubic yards** | $54,000.00 | $39,750.00 | $93,750.00 |
| **Painting bridges, miles 87, 109, and 113, 3 structures** | 458.80 | 305.10 | 763.90 |
| **Buildings:** | | | |
| Mile 82— | | | |
| Bird station tool house, $300 | 1,000.00 | 1,700.00 | 2,700.00 |
| Remodeling construction headquarters for section house, $300 | | | |
| Mile 89— | | | |
| Indian station tool house, $300 | | | |
| Remodeling construction headquarters for section house, $300 | | | |
| Mile 94— | | | |
| Rainbow station tool house, $300 | | | |
| Remodeling construction headquarters for section house, $300 | | | |
| Mile 101— | | | |
| Potter station tool house, $300 | | | |
| Remodeling construction headquarters for section house, $300 | | | |
| Mile 109.2, Campbell station tool house, $300 | | | |
| Total | 116,498.80 | 142,940.10 | 259,438.90 |

### MILE 114.8 TO MILE 227.

| | | | |
|---|---|---|---|
| Ballasting, mile 115 to mile 150, 5,000 cubic yards | $2,850.00 | $1,150.00 | $4,000.00 |
| Ballasting and bank widening: | | | |
| Mile 152 to mile 175, 24,000 cubic yards, $19,200 | 92,340.00 | 37,260.00 | 129,600.00 |
| Mile 175 to mile 187, 40,000 cubic yards, $32,000 | | | |
| Mile 187 to mile 210, 48,000 cubic yards, $38,400 | | | |
| Mile 210 to mile 227, 50,000 cubic yards, $40,000 | | | |
| Riprap: | | | |
| Mile 147, 1,000 cubic yards, $1,250 | 2,880.00 | 2,120.00 | 5,000.00 |
| Mile 148, 1,000 cubic yards, $1,250 | | | |
| Mile 149, 2,000 cubic yards, $2,500 | | | |
| Filling and riprapping embankment, mile 225, 30,000 cubic yards | 27,000.00 | 30,000.00 | 57,000.00 |
| Bridge painting, 12 structures | 4,543.60 | 2,929.50 | 7,473.10 |
| Buildings, and water and coaling stations: | | | |
| Mile 159, Wasilla station, tool house | 100.00 | 200.00 | 300.00 |
| Mile 167, Pittman station, tool house | 100.00 | 200.00 | 300.00 |
| Mile 167, Pittman station, coaling station | 2,200.00 | 6,300.00 | 8,500.00 |
| Mile 175, Houston station, section house | 810.00 | 1,190.00 | 2,000.00 |
| Mile 175, Houston station, tool house | 100.00 | 200.00 | 300.00 |
| Mile 182, Nancy station, tool house | 100.00 | 200.00 | 300.00 |
| Mile 182, Nancy station, section house | 810.00 | 1,190.00 | 2,000.00 |
| Mile 186, Willow station, pumping station | 2,120.00 | 3,880.00 | 6,000.00 |
| Mile 186, Willow station, section house | 810.00 | 1,190.00 | 2,000.00 |
| Mile 186, Willow station, tool house | 100.00 | 200.00 | 300.00 |
| Mile 194, Kashwitna station, tool house | 100.00 | 200.00 | 300.00 |
| Mile 194, Kashwitna station, section house | 810.00 | 1,190.00 | 2,000.00 |
| Mile 203, Caswell station, section house | 810.00 | 1,190.00 | 2,000.00 |
| Mile 203, Caswell station, tool house | 100.00 | 200.00 | 300.00 |
| Mile 210, Montana station, water tank | 2,120.00 | 3,880.00 | 6,000.00 |
| Mile 210, Montana station, section house | 810.00 | 1,190.00 | 2,000.00 |
| Mile 210, Montana station, tool house | 100.00 | 200.00 | 300.00 |
| Mile 216, Sunshine station, section house | 810.00 | 1,190.00 | 2,000.00 |
| Mile 216, Sunshine station, tool house | 100.00 | 200.00 | 300.00 |
| Mile 222, Fishlake station, section house | 810.00 | 1,190.00 | 2,000.00 |
| Mile 222, Fishlake station, tool house | 100.00 | 200.00 | 300.00 |
| Telegraph and telephone | 14,547.38 | 27,982.86 | 42,530.24 |
| Total | 158,080.98 | 127,022.36 | 285,103.34 |

## MATANUSKA BRANCH.

| | Labor. | Materials, supplies, equipment. | Total. |
|---|---|---|---|
| Grading, mile 8, 15,000 cubic yards excavation | $2,850.00 | $3,150.00 | $6,000.00 |
| Ballast: | | | |
| Miles 36 to 38, 10,000 cubic yards | 5,700.00 | 2,300.00 | 8,000.00 |
| Eska Branch, 2,000 cubic yards | 380.00 | 420.00 | 800.00 |
| Riprap, miles 10, 11, 14, and 33, 4,000 cubic yards | 2,880.00 | 2,120.00 | 5,000.00 |
| Buildings: | | | |
| Mile 20, Granite station, tool house | 100.00 | 200.00 | 300.00 |
| Mile 28, tool house | 100.00 | 200.00 | 300.00 |
| Mile 37.7, Chickaloon station, tool house | 100.00 | 200.00 | 300.00 |
| Mile 37.7, Chickaloon station, section house | 810.00 | 1,190.00 | 2,000.00 |
| Eska, tool house | 100.00 | 200.00 | 300.00 |
| Eska, section house | 810.00 | 1,190.00 | 2,000.00 |
| Painting bridges, 5 structures | 1,184.00 | 626.40 | 1,810.40 |
| Total | 15,014.00 | 11,796.40 | 26,810.40 |

## MILE 228 TO MILE 265, INCLUSIVE.

| | | | |
|---|---|---|---|
| Clearing 37.2 acres, at $125 | $3,487.50 | $1,162.50 | $4,650.00 |
| Grubbing 12.96 acres, at $200 | 1,944.00 | 648.00 | 2,592.00 |
| Grading: | | | |
| Common, 149,280 cubic yards, at $0.50 | 55,980.00 | 18,660.00 | 74,640.00 |
| Frozen, 44,323 cubic yards, at $0.75 | 24,931.69 | 8,310.56 | 33,242.25 |
| Loose rock, 122,602 cubic yards, at $0.65 | 59,768.47 | 19,922.83 | 79,691.30 |
| Solid rock, 12,772 cubic yards, at $1.25 | 11,971.25 | 3,993.75 | 15,965.00 |
| Overhaul, 315,908 cubic yards, at $0.015 | 3,553.96 | 1,184.66 | 4,738.62 |
| Material in ditches, 6,000 cubic yards, at $1 | 4,500.00 | 1,500.00 | 6,000.00 |
| Riprap, 136,160 cubic yards, at $1.50 to $2 | 155,055.00 | 51,685.00 | 206,740.00 |
| Total | 321,191.87 | 107,067.30 | 428,259.17 |
| Engineering, superintendence, and other contingencies, 10 per cent | 32,119.19 | 10,706.73 | 42,825.92 |
| Bridges, trestles, and culverts | 97,286.15 | 52,384.85 | 149,671.00 |
| Track and ballast, 198,590 linear feet, at $2.96 | 97,971.00 | 489,855.40 | 587,826.40 |
| Sidings, grading and track complete for 6 sidings | 7,780.00 | 23,340.00 | 31,120.00 |
| Water stations, two | 3,500.00 | 6,500.00 | 10,000.00 |
| Section and tool houses, four of each | 7,000.00 | 7,000.00 | 14.000.00 |
| Telephone and telegraph line | 12,252.58 | 22,754.80 | 35,007.38 |
| Total | 579,100.79 | 719,609.08 | 1,298,709.87 |

## MILE 266 TO MILE 290, INCLUSIVE.

| | | | |
|---|---|---|---|
| Clearing 300.2 acres, at $150 | $36,024.00 | $9,006.00 | $45,030.00 |
| Grubbing, 10.4 acres, at $200 | 1,664.00 | 416.00 | 2,080.00 |
| Grading: | | | |
| Common, 344,486 cubic yards, at $0.50 | 129,182.25 | 43,060.75 | 172,243.00 |
| Frozen material, 319,529 cubic yards, at $1 | 223,670.30 | 95,858.70 | 319,529.00 |
| Loose rock, 20,926 cubic yards, at $0.75 | 11,770.87 | 3,923.63 | 15,694.50 |
| Solid rock, 192,228 cubic yards, at $1.25 | 160,190.00 | 80,095.00 | 240,285.00 |
| Overhaul, 1,857,180 cubic yards, at $0.015 | 18,571.80 | 9,285.90 | 27,857.70 |
| Riprap, 3,000 cubic yards, at $2 | 4,500.00 | 1,500.00 | 6,000.00 |
| Total | 585,573.22 | 243,145.98 | 828,719.20 |
| Engineering, superintenance and other contingencies, 10 per cent | 58,557.32 | 24,314.60 | 82,871.92 |
| Bridges, trestles, and culverts, including crossings of Susitna River and Hurricane Gulch. (See detailed statement below) | 617,088.43 | 872,872.37 | 1,489,960.80 |
| Track and ballast, 132,000 linear feet, at $2.96 | 58,608.00 | 332,112.00 | 390,720.00 |
| Sidings: | | | |
| Grading, $18,181.80 | 15,153.93 | 30,307.87 | 45,461.80 |
| Track and ballast, $23,520 | | | |
| Turnouts, 2, complete, $3,760 | | | |
| Buildings and water stations: | | | |
| Section and tool houses (3 each), $10,500 | 4,650.00 | 10,850.00 | 15,500.00 |
| Water station (1), $5,000 | | | |
| Telegraph and telephone line | 1,0431.71 | 14,327.43 | 24,759.14 |
| Grand total | 1,350,062.61 | 1,527,930.25 | 2,877,992.86 |

MILE 266 TO MILE 290, INCLUSIVE—Continued.

| | Labor. | Materials, supplies, equipment. | Total. |
|---|---|---|---|
| DETAILED STATEMENT. | | | |
| Bridges, culverts, and trestles, including Susitna River bridge and Hurricane Gulch viaduct: | | | |
| Miscellaneous structures— | | | |
| Piling in place, 74,950 linear feet, at $0.45 | $11,242.50 | $22,485.00 | $33,727.50 |
| Timber in place, 1,442,800 feet b. m., at $0.065 | 31,260.65 | 62,521.35 | 93,782.00 |
| Iron in place, 452,100 pounds, at $0.12 | 18,084.00 | 36,168.00 | 54,252.00 |
| Logs in place, 16,950 linear feet, at $0.30 | 3,390.00 | 1,695.00 | 5,085.00 |
| Excavation, 300 cubic yards, at $2 | 400.00 | 200.00 | 600.00 |
| Concrete, 490 cubic yards, at $15 | 4,900.00 | 2,450.00 | 7,350.00 |
| Engineering, superintendence, and other contingencies, 20 per cent | 17,472.23 | 21,487.07 | 38,959.30 |
| Total | | | 233,755.80 |
| Susitna River bridge— | | | |
| Excavation (pneumatic), 8,690 cubic yards, at $11 | 63,726.65 | 31,863.35 | 95,590.00 |
| Excavation (open), 3,740 cubic yards, at $6 | 14,960.00 | 7,480.00 | 22,440.00 |
| Concrete, 6,028 cubic yards, at $15 | 60,280.00 | 30,140.00 | 90,420.00 |
| Steel, 3.700,000 pounds, at $0.12 | 148,000.00 | 296,000.00 | 444,000.00 |
| Piling, 75,900 linear feet, at $0.45 | 11,385.00 | 22,770.00 | 34,155.00 |
| Timber, 915,200 feet b. m., at $65 | 19,829.35 | 39,658.65 | 59,488.00 |
| Iron, 326,550 pounds, at $0.12 | 13,062.00 | 26,124.00 | 39,186.00 |
| Extra expenses | 6,666.65 | 3,333.35 | 10,000.00 |
| Bank protections | 13,333.35 | 6,666.65 | 20,000.00 |
| Engineering, superintendence, and other contingencies, 20 per cent | 70,248.65 | 92,807.35 | 163,056.00 |
| Total | | | 978,335.00 |
| Hurricane Gulch viaduct— | | | |
| Excavation, 880 cubic yards, at $3 | 1,760.00 | 880.00 | 2,640.00 |
| Concrete, 550 cubic yards, at $15 | 5,500.00 | 2,750.00 | 8,250.00 |
| Steel in place, 1,469,000 pounds, at $0.12 | 58,760.00 | 117,520.00 | 176,280.00 |
| Timber, 217,800 feet b. m., at $60 | 4,356.00 | 8,712.00 | 13,068.00 |
| Iron, 11,000 pounds, at $0.12 | 330.00 | 990.00 | 1,320.00 |
| Extra erection cost | 20,000.00 | 10,000.00 | 30,000.00 |
| Engineering, superintendence, and other contingencies, 20 per cent | 18,141.40 | 28,170.60 | 46,312.00 |
| Total | | | 277,870.00 |
| Grand total | 617,088.43 | 872,872.37 | 1,489,960.80 |

MILE 291 TO MILE 365.

| | | | |
|---|---|---|---|
| Clearing 859 acres, at $150 | $103,080.00 | $25,770.00 | $128,850.00 |
| Grubbing 151.65 acres, at $200 | 24,264.00 | 6,066.00 | 30,330.00 |
| Grading: | | | |
| Common, 515,223 cubic yards, at $0.50 | 193,208.62 | 64,402.88 | 257,611.50 |
| Frozen material, 930,975 cubic yards, at $1 | 651,679.75 | 279,295.25 | 930,975.00 |
| Loose rock, 22,996 cubic yards, at $0.75 | 12,935.25 | 4,311.75 | 17,247.00 |
| Solid rock, 427,281 cubic yards, at $1.25 | 356,067.50 | 178,033.75 | 534,101.25 |
| Overhaul, 2,030,000 cubic yards, at $0.015 | 20,300.00 | 10,150.00 | 30,450.00 |
| Riprap, 10, 057 cubic yards, at $2 | 15,085.50 | 5,028.50 | 20,114.00 |
| Tunnels, 1,385 linear feet, $125 | 115,416.67 | 57,708.33 | 173,125.00 |
| | 1,492,037.29 | 630,766.46 | 2,122,803.75 |
| Engineering, superintendence, and other contingencies, 10 per cent | 149,203.73 | 63,076.64 | 212,280.37 |
| Bridges, trestles, and culverts. (For details see statement below) | 615,956.58 | 699,633.66 | 1,315,590.24 |
| Track and ballast, 396,000 linear feet, at $2.96 | 175,824.00 | 996,336.00 | 1,172,160.00 |
| Snow fences | 2,700.00 | 8,100.00 | 10,800.00 |
| Sidings, 10: | | | |
| Grading, $45,454.50<br>Track and ballast, $58,800<br>Turnouts, 2, each, $9,400 | 37,884.83 | 75,769.67 | 113,654.50 |
| Buildings and water stations: | | | |
| Section and tool house, 9, each, $31,500<br>Water stations, 4, each, $20,000 | 15,450.00 | 36,050.00 | 51,500.00 |
| Telegraph and telephone line | 25,997.10 | 48,280.33 | 74,277.43 |
| Location surveys | 37,500.00 | 12,500.00 | 50,000.00 |
| Total | 2,552,553.53 | 2,570,512.76 | 5,123,066.29 |

### MILE 291 TO MILE 365—Continued.

| | Labor. | Materials, supplies, equipment. | Total. |
|---|---|---|---|
| DETAILED STATEMENT. | | | |
| Bridges, trestles, and culverts: | | | |
| Miscellaneous structures— | | | |
| Piling, 262,470 linear feet, at $0.45 | $39,370.50 | $78,741.00 | $118,111.50 |
| Timber, 4,941,500 feet b. m., at $65 | 107,065.85 | 214,131.65 | 321,197.50 |
| Iron, 1,699,310 pounds, at $0.12 | 135,944.80 | 67,972.40 | 203,917.20 |
| Logs, 37,680 linear feet, at $0.30 | 7,536.00 | 3,768.00 | 11,304.00 |
| Excavation, 4,220 cubic yards, at $2 | 5,626.65 | 2,813.35 | 8,440.00 |
| Concrete, 4,350 cubic yards, at $15 | 43,500.00 | 21,750.00 | 65,250.00 |
| Steel, 1,778,750 pounds, at $0.12 | 71,150.00 | 142,300.00 | 213,450.00 |
| Engineering, superintendence, and other contingencies, 20 per cent | 82,038.76 | 106,295.28 | 188,334.04 |
| Total | 492,232.56 | 637,771.68 | 1,130,004.24 |
| Bridge at Riley Creek— | | | |
| Excavation (dry), 2,640 cubic yards, at $2 | 3,520.00 | 1,760.00 | 5,280.00 |
| Excavation (wet), 550 cubic yards, at $5 | 1,833.35 | 916.65 | 2,750.00 |
| Concrete, 1,595 cubic yards, at $15 | 15,950.00 | 7,975.00 | 23,925.00 |
| Steel, 860,800 pounds, at $0.12 | 68,864.00 | 34,432.00 | 103,296.00 |
| Timber, 279,400 feet b. m., at $60 | 11,176.00 | 5,588.00 | 16,764.00 |
| Iron, 22,000 pounds, at $0.12 | 1,760.00 | 880.00 | 2,640.00 |
| Engineering, superintendence, and other contingencies, 20 per cent | 20,620.67 | 10,310.33 | 30,931.00 |
| Total | 123,724.02 | 61,861.98 | 185,586.00 |
| Grand total | 615,956.58 | 699,633.66 | 1,315,590.24 |

### MILE 366 TO MILE 414.

| | | | |
|---|---|---|---|
| Grading, 60,000 cubic yards, at $0.50 | $22,500.00 | $7,500.00 | $30,000.00 |
| Ballast, 40,000 cubic yards, at $1.20 | 36,000.00 | 12,000.00 | 48,000.00 |
| Sidings, 8, to complete | 1,000.00 | 2,000.00 | 3,000.00 |
| Section houses, 4, at $2,500 | 3,000.00 | 7,000.00 | 10,000.00 |
| Structures, estimated to complete | 1,200.00 | 2,800.00 | 4,000.00 |
| Water tanks, 2, at $3,000 | 1,800.00 | 4,200.00 | 6,000.00 |
| Telephone and telegraph line, estimated to complete | 6,000.00 | 12,000.00 | 18,000.00 |
| Bridge, Nenana River (see detailed statement below) | 109,062.42 | 128,952.78 | 238,015.20 |
| Total | 180,562.42 | 176,452.78 | 357,015.20 |
| DETAILED STATEMENT. | | | |
| Nenana River Bridge:[1] | | | |
| Excavation, wet—South abutment, 5 piers, and north abutment, 4,620 cubic yards, at $6 | 18,480.00 | 9,240.00 | 27,720.00 |
| Concrete, 2 abutments, 5 piers, 2,706 cubic yards, at $15 | 27,060.00 | 13,530.00 | 40,090.00 |
| Piling, trestles, false work, and working platforms, 13,200 linear feet, at $0.45 | 1,980.00 | 3,960.00 | 5,940.00 |
| Timber for trestles, false work, working platforms, and 6—121-foot spans, 653,400 feet b. m., at $65 | 14,157.00 | 28,314.00 | 42,471.00 |
| Iron for trestles, false work, working platforms, and 6—121-foot spans, 630,210 pounds, at $0.12 | 25,208.35 | 50,416.65 | 75,625.00 |
| Bank protections | 4,000.00 | 2,000.00 | 6,000.00 |
| Engineering, superintendence, and other contingencies, 20 per cent | 18,177.07 | 21,492.13 | 39,669.20 |
| Total | 109,062.42 | 128,952.78 | 238,015.20 |

---

[1] Station 17814/47.5 to Station 17822/62.75. South approach, 2—14-foot spans, pile trestles; 6+121-foot Howe truss spans. North approach, 2—14-foot spans, pile trestles.

## TANANA RIVER BRIDGE.[1]

| | Labor. | Materials, supplies, equipment. | Total. |
|---|---|---|---|
| Excavation for piers, 14,036 cubic yards, at $11 | $102,930.65 | $51,465.35 | $154,396.00 |
| Concrete for piers, 6,423 cubic yards, at $15 | 64,230.00 | 32,115.00 | 96,345.00 |
| Steel in place: | | | |
| 1 200-foot lift span, 600,000 pounds, at $0.12 | 24,000.00 | 48,000.00 | 72,000.00 |
| 2 towers, 235,000 pounds, at $0.12 | 9,400.00 | 18,800.00 | 28,200.00 |
| 1 stiffening span, 150,000 pounds, at $0.12 | 6,000.00 | 12,000.00 | 18,000.00 |
| 2 350-foot spans, 3,300,000 pounds, at $0.12 | 132,000.00 | 264,000.00 | 396,000.00 |
| Piling for trestles, abutments, working platforms, piers, falsework, 132,000 linear feet, at $0.45 | 19,800.00 | 39,600.00 | 59,400.00 |
| Timber for trestles, abutments, working platforms, falsework, pony spans, and decks for steel spans, 1,276,000 feet b. m., at $65 | 27,646.65 | 55,293.35 | 82,940.00 |
| Iron in place: | | | |
| For trestles, abutments, working platforms, falsework, pony spans, and decks for steel spans, 228,900 pounds, at $0.12 | 9,156.00 | 18,312.00 | 27,468.00 |
| For counterweights, 600,000 pounds, at $0.08 | 8,000.00 | 40,000.00 | 48,000.00 |
| Preliminary borings | 10,000.00 | 5,000.00 | 15,000.00 |
| Bank protections, approximately | 13,333.35 | 6,666.65 | 20,000.00 |
| Total | 426,496.65 | 591,252.35 | 1,017,749.00 |
| Engineering, superintendence, and other contingencies, 20 per cent | 85,299.33 | 118,250.47 | 203,549.80 |
| Grand total | 511,795.98 | 709,502.82 | 1,221,298.80 |

## MILE 414 TO MILE 470.7.

| | Labor. | Materials, supplies, equipment. | Total. |
|---|---|---|---|
| Grading: | | | |
| Common, 73,101 cubic yards, at $0.50 | $27,412.87 | $9,137.63 | $36,550.50 |
| Common borrow, 230,547 cubic yards, at $0.60 | 103,746.15 | 34,582.05 | 138,328.20 |
| Wet borrow, 72,028 cubic yards, at $0.75 | 40,515.75 | 13,505.25 | 54,021.00 |
| Frozen material, 58,947 cubic yards, at $0.95 | 39,199.76 | 16,799.89 | 55,999.65 |
| Solid rock, 48,900 cubic yards, at $1.15 | 37,490.00 | 18,745.00 | 56,235.00 |
| Overhaul, 7,233,500 cubic yards, at $0.015 | 72,335.00 | 36,167.50 | 108,502.50 |
| Sidings—fill, 24,531 cubic yards, at $0.60 | 9,812.40 | 4,906.20 | 14,718.60 |
| Bridges, trestles, and culverts | 9,632.21 | 19,264.42 | 28,896.63 |
| Grubbing, 75 acres, at $150 | 9,000.00 | 2,250.00 | 11,250.00 |
| Stripping, 32 acres, at $60 | 1,535.00 | 385.00 | 1,920.00 |
| Engineering, superintendence, and other contingencies, 10 per cent | 35,067.91 | 15,574.30 | 50,642.21 |
| Rail, angle bars and bolts, 28.3 miles, cost delivered | 18,000.00 | 254,474.00 | 272,474.00 |
| Track laying: | | | |
| 37.6 miles, at $1,000 | 28,200.00 | 9,400.00 | 37,600.00 |
| 9 sidings, at $600 | 3,600.00 | 1,800.00 | 5,400.00 |
| Ballasting, 48,000 cubic yards, at $1.25 | 15,000.00 | 45,000.00 | 60,000.00 |
| Section houses, 4, at $2,500 | 3,000.00 | 7,000.00 | 10,000.00 |
| Water tanks, 2, at $3,000 | 1,800.00 | 4,200.00 | 6,000.00 |
| Changing narrow to standard gauge, mile 414 to mile 463.3 | 20,000.00 | 5,000.00 | 25,000.00 |
| Telephone and telegraph lines, estimated to complete | 9,031.00 | 16,769.00 | 25,800.00 |
| Total | 484,378.05 | 514,960.24 | 999,338.29 |
| MILE 463.3 TO MILE 470.7, RECONSTRUCTION. | | | |
| Clearing, 36 acres, at $20 | 576.00 | 144.00 | 720.00 |
| Grading, unclassified, 48,420 cubic yards, at $0.80 | 29,052.00 | 9,684.00 | 38,736.00 |
| Trestles and culverts | 4,140.00 | 8,406.50 | 12,546.50 |
| Engineering, superintendence, and other contingencies, 10 per cent | 3,376.80 | 1,823.45 | 5,200.25 |
| Track and rails, mile 463.3 to mile 470.7 | 28,000.00 | 84,000.00 | 112,000.00 |
| Total | 65,144.80 | 104,057.95 | 169,202.75 |
| Grand total | 549,522.85 | 619,018.19 | 1,168,541.04 |

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[1] Station 19473/62 to Station 9509/06:

| | | *Ft.* | *In.* |
|---|---|---|---|
| South approach, | 116 14-foot trestle spans | 1,623 | 6 |
| | 1 200-foot steel lift span | 231 | 0 |
| | 2 350-foot steel spans | 708 | 0 |
| | 1 56-foot pony span | 58 | 0 |
| | 26 14-foot trestle spans | 364 | 0 |
| | 7 56-foot pony spans | 476 | 0 |
| North approach, | 6 14-foot trestle spans | 83 | 6 |
| Total length of structure | | 3,544 | 0 |

## CHATANIKA BRANCH.

[As of date Mar. 31, 1919.]

| | Labor. | Materials, supplies, equipment. | Total. |
|---|---|---|---|
| Mile 0 to mile 13.1, Happy to Gilmore: Ties and ballasting | $4,000.00 | $2,000.00 | $6,000.00 |
| Mile 13.1 to mile 18.7, Gilmore to Summit: | | | |
| Grading, unclassified, 31,250 cubic yards, at $0.80 | 18,750.00 | 6,250.00 | 25,000.00 |
| Trestles and culverts | 2,350.00 | 4,650.00 | 7,000.00 |
| Engineering, superintendence, and other contingencies, 10 per cent | 2,110.00 | 1,090.00 | 3,200.00 |
| Mile 18.7 to mile 26.3, Summit to Olnes: | | | |
| Grading, unclassified, 18,750 cubic yards, at $0.80 | 11,250.00 | 3,750.00 | 15,000.00 |
| Trestles and culverts | 2,000.00 | 4,000.00 | 6,000.00 |
| Engineering superintendence, and other contingencies, 10 per cent | 1,325.00 | 775.00 | 2,100.00 |
| Mile 26.3 to mile 31.8, Olnes to Chatanika: | | | |
| Ties, 10,000, at $1 | 5,000.00 | 5,000.00 | 10,000.00 |
| Ballast, 5,000 cubic yards, at $1.50 | 5,625.00 | 1,875.00 | 7,500.00 |
| Tank and pump | 750.00 | 1,750.00 | 2,500.00 |
| Total | 53,160.00 | 31,140.00 | 84,300.00 |

## TERMINALS.

| | | | |
|---|---|---|---|
| SEWARD. | | | |
| Grading: | | | |
| Widening fill in terminal yard, 12,000 cubic yards gravel from Lowell Creek, at $0.50 | $4,500.00 | $1,500.00 | $6,000.00 |
| Track: | | | |
| Relaying spurs, etc., in terminal yard with old 56-pound rail; 4,500 linear feet (labor only), at $0.25 | 1,125.00 | ............ | 1,125.00 |
| Ties: | | | |
| Terminal yards, 2,250 ties in place, at $0.75 | 843.75 | 843.75 | 1,687.50 |
| Ballast: | | | |
| Terminal yards, 2,150 cubic yards, at $0.75 | 1,075.00 | 537.50 | 1,612.50 |
| Dock extension: | | | |
| 118,000 feet, b. m., lumber in place, at $65 | 6,312.30 | 14,728.70 | 21,041.00 |
| 8,000 pounds iron in place, at $0.10 | | | |
| 14,500 linear feet treated piling in place, at $0.85 | | | |
| 4,100 square feet wrecking old dock, at $0.06 | | | |
| Carpenter shop: | | | |
| Terminal tract | 1,200.00 | 2,800.00 | 4,000.00 |
| Warehouse: | | | |
| Dock | 1,200.00 | 2,800.00 | 4,000.00 |
| Engineering, superintendence, and other contingencies, 15 per cent | 2,294.97 | 3,624.93 | 5,919.90 |
| Total | 18,551.02 | 26,834.88 | 45,385.90 |
| ANCHORAGE. | | | |
| Yard, ballasting, 20,000 cubic yards | 12,000.00 | 4,000.00 | 16,000.00 |
| (a) Harbor, improvements | 90,000.00 | 35,000.00 | 125,000.00 |
| Roundhouse, addition to, providing for 4 additional stalls | 5,430.00 | 12,670.00 | 18,100.00 |
| Paint shop | 5,793.00 | 13,517.00 | 19,310.00 |
| Storage shed and machine-shop office | 1,980.00 | 4,620.00 | 6,600.00 |
| Foundry and coke house | 5,970.00 | 13,930.00 | 19,900.00 |
| Concrete flooring in power plant | 390.00 | 910.00 | 1,300.00 |
| Coaling incline for locomotives | 1,020.00 | 2,380.00 | 3,400.00 |
| Total | 122,583.00 | 87,027.00 | 209,610.00 |
| TALKEETNA. | | | |
| Terminal buildings [1] | 18,645.00 | 43,505.00 | 62,150.00 |
| Side tracks, 11,000 feet, wye, and 15 switches | 5,400.00 | 30,600.00 | 36,000.00 |
| Coaling station | 2,550.00 | 5,950.00 | 8,500.00 |
| Filling, side tracks, building sites, and wye, estimated 26,600 cubic yards | 12,000.00 | 4,000.00 | 16,000.00 |
| Total | 39,551.25 | 83,098.75 | 122,650.00 |

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[1] Anchorage Harbor improvements contemplate completion of dredging to a maximum depth of 30 feet at mean low tide, and construction of a dock about 500 feet long and loading facilities sufficient to load 1,500 to 2,000 tons of coal in 24 hours.

TERMINALS—Continued.

| | Labor. | Materials, supplies, equipment. | Total. |
|---|---|---|---|
| SUMMIT. | | | |
| Grading | $12,000.00 | $4,000.00 | $16,000.00 |
| Side tracks, 11,000 feet, wye, and 15 switches, 26,000 cubic yards | 5,400.00 | 30,600.00 | 36,000.00 |
| Terminal buildings [1] | 18,645.00 | 43,505.00 | 62,150.00 |
| Coaling station | 2,550.00 | 5,950.00 | 8,500.00 |
| | 38,595.00 | 84,055.00 | 122,650.00 |
| Total for terminals | 218,324.02 | 281,971.88 | 500,295.90 |

[1] Talkeetna and Summit terminal buildings:

| | |
|---|---|
| Round house, foreman's residence, employees' and train crew quarters, section house, section laborers' quarters | $16,600.00 |
| Section toolhouse, oil and sand house | 700.00 |
| Round house, including boiler and pump house | 19,350.00 |
| Lighting, heating installation, piping, sewerage, etc | 25,500.00 |
| | 62,150.00 |

### *Rolling stock required.*

| | |
|---|---|
| Locomotives, 6, at $25,000 | $150,000.00 |
| Flat cars—equipment estimated to cost on delivery, 295 | 368,866.68 |
| Box cars, 30, at $2,500 | 75,000.00 |
| Stock cars, 7, at $2,500 | 17,500.00 |
| Gondolas, 10, at $2,500 | 25,000.00 |
| Refrigerator cars, 5, at $5,000 | 25,000.00 |
| Cabooses, 10, at $4,000 | 40,000.00 |
| Outfit cars, 10, at $2,500 | 25,000.00 |
| Ballast spreader, 1 | 8,000.00 |
| Ditcher, 1 | 15,000.00 |
| Snow plows, rotary, 3, at $25,000 | 75,000.00 |
| Snow plows, flanged, 4, at $10,000 | 40,000.00 |
| Wrecking cranes, 2, at $20,000 | 40,000.00 |
| Passenger coaches, 3, at $20,000 | 60,000.00 |
| Combination passenger and baggage cars, 5, at $17,000 | 85,000.00 |
| Combination baggage and mail cars, 2, at $16,000 | 32,000.00 |
| Total | 1,081,366.68 |

### *Estimate of quantities of material and cost to complete United States Government Alaska Railroad, Mar. 31, 1919.*

| | | |
|---|---|---|
| Road: | | |
| Clearing 1,445.4 acres | | $200,550.00 |
| Grubbing 250.01 acres | | 46,252.00 |
| Stripping 32 acres | | 1,920.00 |
| Grading— | | |
| Common, 1,178,518 cubic yards | $593,116.00 | |
| Common borrow, 1,038,679 cubic yards | 601,704.45 | |
| Wet borrow, 72,028 cubic yards | 54,021.00 | |
| Material in ditches, 6,000 cubic yards | 6,000.00 | |
| Frozen, 1,353,774 cubic yards | 1,339,745.90 | |
| Frozen and common, 98,420 cubic yards | 78,736.00 | |
| Loose rock, 166,524 cubic yards | 112,632.80 | |
| Solid rock, 861,793 cubic yards | 1,090,412.45 | |
| Rock fill, 75,000 cubic yards | 93,750.00 | |
| | | 3,970,118.60 |
| Overhaul, 11,576,488 cubic yards | | 173,647.32 |
| Riprap, 240,017 cubic yards | | 358,779.00 |
| Tunnels, 1,385 linear feet | 173,125.00 | |
| Enlarging, 3,096 linear feet | 92,880.00 | |
| Lumber, 158,400 feet b. m | 9,504.00 | |
| Iron, 7,920 pounds | 792.00 | |
| Excavation, 20 linear feet | 600.00 | |
| | | 276,901.00 |

| | | |
|---|---|---|
| Road—Continued. | | |
| Bridges, trestles, and culverts: | | |
| Excavation, 43,001 cubic yards | $328,168.50 | |
| Piling, 632,150 linear feet | 284,467.50 | |
| Lumber, 12,512,362 feet b. m. | 813,344.47 | |
| Logs, 90,060 linear feet | 25,442.00 | |
| Iron, 4,849,043 pounds | 540,305.50 | |
| Steel, 12,093,550 pounds | 1,451,226.00 | |
| Concrete, 25,191 cubic yards | 393,110.00 | |
| Extra expenses | 40,000.00 | |
| Borings | 15,000.00 | |
| Bank protection | 46,000.00 | |
| Painting constructed bridges, 20 | 10,047.40 | |
| Bridges, trestles, and culverts not itemized | 71,371.13 | |
| Trestles, 2,645 linear feet | 46,287.50 | |
| | | $4,064,770.00 |
| Snowsheds, 8,950 linear feet | | 1,160,000.00 |
| Snow fences | | 10,800.00 |
| Track: | | |
| Rail, ties, ballast, etc., complete, 145.03 miles | 2,262,706.40 | |
| Rail, angle bars, etc., only, 28.3 miles | 272,474.00 | |
| Laying rail, only, 37.6 miles | 37,600.00 | |
| Relining, 22.05 miles | 11,025.00 | |
| Changing narrow to standard gauge, 49.3 miles | 25,000.00 | |
| Ties, 30,600 | 26,450.00 | |
| Ties and ballast | 6,000.00 | |
| Ballast, 426,152 cubic yards | 374,114.00 | |
| Relaying, 0.89 mile | 890.00 | |
| | | 3,015,259.40 |
| Sidings: | | |
| Complete, 28 | 193,236.30 | |
| Filling 9 sidings, 24,531 cubic yards | 14,718.60 | |
| Track laying, 9 sidings | 5,400.00 | |
| Relaying, 0.23 mile | 230.00 | |
| Sidings and switchbacks, 1.8 | 1,800.00 | |
| | | 215,384.90 |
| Coaling station, 1 | | 8,500.00 |
| Section houses, 45 | 113,400.00 | |
| To complete, 2 | 4,000.00 | |
| | | 117,400.00 |
| Tool houses, 35 | | 10,500.00 |
| Warehouse, 1 | | 1,500.00 |
| Water stations, 20 | | 81,000.00 |
| Telephone and telegraph: | | |
| New | 220,374.19 | |
| Reconstruction | 8,750.00 | |
| | | 229,124.19 |
| Transportation and handling supplies | | 144,000.00 |
| Wagon road, mile 265 to mile 365 | | 200,000.00 |
| Engineering, superintendence and other contingencies | | 1,545,383.28 |
| Total | | 15,831,789.69 |

Not including terminals, rolling stock, hospital maintenance, general expenditures, maintenance, and operation.

*Terminals—Deferred improvements.*

| | |
|---|---|
| Anchorage: | |
| Gravel filling and constructing 32,800 linear feet of track, including 30 No. 7 turnouts and requiring 91,400 cubic yards of gravel filling | $137,558 |
| Car shops | 46,119 |
| | 183,677 |

*Seward.*—Present plans include in this estimate some minor additions to the terminal facilities at Seward. Unquestionably these facilities will need to be increased as traffic requirements grow, but it is impossible at this time to form any estimate of the extent of such requirements.

*Nenana.*—Terminal facilities provided for the construction period are probably sufficient to care for the commercial requirements at Nenana for some years to come, hence no item for additions is included in this estimate.

*Fairbanks.*—The terminal facilities acquired by the purchase of the Tanana Valley Railroad will ultimately need to be increased with the growth of Fairbanks as a distributing center as the future increase of traffic demands. At present these facilities are sufficient for all requirements.

### *Rolling stock—Purchase deferred.*

[Probably required upon completion of road.]

| | |
|---|---|
| Locomotives, 6, at $25,000 | $150,000 |
| Box cars, 70, at $2,500 | 175,000 |
| Gondolas, 10, at $2,500 | 25,000 |
| Refrigerator cars, 5, at $5,000 | 25,000 |
| Cabooses, 6, at $4,000 | 24,000 |
| Outfit cars, 15, at $2,500 | 37,500 |
| Lidgerwood unloader, 1 | 10,000 |
| Wrecking crane, 1 | 20,000 |
| Passenger coaches, 7, at $20,000 | 140,000 |
| Combination passenger and baggage cars, 2, at $17,000 | 34,000 |
| Combination baggage and mail cars, 3, at $16,000 | 48,000 |
| Total | 688,500 |

### *Financial statement.*

[Appropriation, construction of railroads in Alaska to Mar. 31, 1919.]

ASSET SIDE.

| | | |
|---|---|---|
| **Road:** | | |
| Preliminary surveys | $431,537.29 | |
| Engineering | 1,170,007.95 | |
| Land for transportation purposes | 17,821.20 | |
| Grading | 9,249,216.97 | |
| Tunnels | 229,813.42 | |
| Bridges | 1,695,421.39 | |
| Ties | 542,490.82 | |
| Rails | 2,176,267.93 | |
| Other track material | 366,625.52 | |
| Ballast | 292,232.51 | |
| Track laying | 1,240,452.96 | |
| Snow sheds | 24,795.93 | |
| Telephone and telegraph | [1] 355,013.73 | |
| Water and fuel stations | 112,829.21 | |
| Other expenditures, road | 1,731,929.94 | |
| Roadway buildings, etc | 53,631.34 | |
| Unapplied construction, material, and supplies. | 379,863.54 | |
| Total | | [2] $20,069,951.65 |

---

[1] Telegraph and telephone reduced by miscellaneous physical property:

| | |
|---|---|
| Anchorage, commercial | $32,209.83 |
| Anchorage, T. & T. building | 12,485.87 |
| Anchorage, radio station | 13,274.63 |
| | 57,970.33 |
| Terminals | 18,581.19 |
| | 76,551.52 |

[2] Alaska Northern R. R.:

| | |
|---|---|
| Purchase and reconstruction | $2,970,532.29 |
| New work | 17,099,428.36 |
| | 20,069,951.65 |

| | | |
|---|---|---|
| Terminal structures (Seward, Anchorage, Nenana): | | |
| Station and office buildings | $388,280.06 | |
| Shops and engine houses | 335,328.71 | |
| Wharves and docks | 386,116.99 | |
| Miscellaneous structures | 352,650.26 | |
| Power plant | [1] 121,056.85 | |
| Telephone and telegraph | [2] 18,581.19 | |
| Total | | [3] $1,602,014.06 |
| Rolling stock, machinery and equipment: | | |
| Locomotives, freight, and passenger cars | 1,151,088.25 | |
| Work equipment | 1,205,452.50 | |
| Machinery | 309,320.36 | |
| Total | | 2,665,861.11 |
| Physical property: | | |
| Employees' dwellings | 199,758.65 | |
| Schools, post offices, jails | 86,850.92 | |
| Town sites | 144,426.66 | |
| Coal mines | 156,807.11 | |
| Telephone and telegraph | [2] 57,970.33 | |
| | | 645,813.67 |
| Maintenance and operation | | 1,543,115.81 |
| General expenses | | 1,070,329.92 |
| Materials and supplies, on hand or in transit (paid) | 2,869,243.83 | |
| On hand or in transit (unpaid) | 666,917.39 | |
| Transportation (unpaid) | 104,921.29 | |
| Total | | 3,641,082.51 |
| T. V. R. R., purchase price | 300,000.00 | |
| Reconstruction | 44,858.23 | |
| Total | | 344,858.23 |
| Other current assests: | | |
| Cash | 434,181.51 | |
| Special deposits | 5,408.06 | |
| Balance in hands of agents and conductors | 2,809.08 | |
| Miscellaneous accounts receivable | [4] 123,290.04 | |
| Total | | 565,688.69 |
| Deferred assets: | | |
| Deferred rail purchases | 187,018.40 | |
| Panama equipment | [5] 197,127.61 | |
| Public works, reimbursable | 42,626.15 | |
| Total | | 426,772.16 |

---

[1] A considerable portion of the expenditure for power plant should be allocated to physical property, but there is now no basis upon which the charge can be equitably divided. About 45 per cent of the electrical energy is disposed of commercially.

[2] Telegraph and telephone reduced by miscellaneous physical property:

| | |
|---|---|
| Anchorage, commercial | $32,209.83 |
| Anchorage, T. & T. building | 12,485.87 |
| Anchorage, radio station | 13,274.63 |
| | 57,970.33 |
| Terminals | 18,581.19 |
| | 76,551.52 |

[3] Alaska Northern R. R.:

| | |
|---|---|
| Purchase and reconstruction | $2,970,532.29 |
| New work | 17,099,428.36 |
| | 20,069,951.65 |

[4] This item includes:

| | |
|---|---|
| Compensation fund | $16,377.81 |
| Medical | 9,791.01 |
| Anchorage assessments | 41,432.45 |
| Mail contracts | 3,805.72 |
| Miscellaneous | 51,883.05 |
| | 123,290.04 |

[5] This item covers cost of transportation, repairs, etc., of Panama equipment, shipment of which has been deferred to season of 1919.

| | | |
|---|---|---|
| Unadjusted debits: | | |
| Panama equipment, 1918 | [1] $50,274.09 | |
| Freight and handling | [2] 2,595.63 | |
| Hospitals and maintenance | 6,165.05 | |
| Loss— | | |
| Retired road and equipment | 76,132.66 | |
| Boarding houses and corrals | 43,087.96 | |
| Department charges, unadjusted | 2,418.20 | |
| Shop expense, deficit | 1,139.96 | |
| Materials and stores expense, deficit | 43,356.09 | |
| Undistributed disbursements | 81,018.60 | |
| Unadjusted transfers between divisions | 65,743.77 | |
| Potter Creek Quarry account | 10,520.78 | |
| Sundry items | 7,998.03 | |
| Total | | $390,450.82 |
| Miscellaneous receipts | | 8,908.98 |
| Grand total | | 32,974,847.61 |

### LIABILITY SIDE.

| | | | |
|---|---|---|---|
| Appropriations: | | | |
| Construction of railroads in Alaska | | $30,997,620.00 | |
| Increase in compensation, 1918 | $6,880.00 | | |
| Returned to Treasury by disbursing agent | 2,527.57 | | |
| | | 4,352.43 | |
| Proceeds of sales of town lots in Alaska | | 106,193.19 | |
| Total | | | $31,108,165.62 |
| Panama equipment | | | [3] 258,041.47 |
| Traffic balances | | | 3,110.34 |
| Audited accounts: | | | |
| Salaries and wages | | 160,694.80 | |
| War tax | | 719.86 | |
| Miscellaneous | | 4,699.93 | |
| | | 166,114.59 | |
| Deduct: | | | |
| Steamship settlement | $992.71 | | |
| Unpaid contract earnings | 15,067.22 | | |
| | | 16,059.93 | |
| Total | | | 150,054.66 |
| Other current liabilities: | | | |
| Unpaid purchase orders | | 666,917.39 | |
| Unpaid transportation | | 104,921.29 | |
| Total | | | 771,838.68 |
| Deferred liabilities: | | | |
| Deferred rail purchases | | 187,018.40 | |
| Panama equipment | | [3] 197,127.61 | |
| Special deposits | | 3,577.93 | |
| Total | | | 387,723.94 |
| Accrued depreciation: | | | |
| Road | | 38,955.70 | |
| Equipment | | 188,130.88 | |
| Total | | | 215,086.58 |

---

[1] This item covers cost of repairs, etc., of Panama equipment received during the season of 1918.

[2] This item covers the cost of freight and handling on Panama equipment.

[3] This item covers cost of transportation, repairs, etc., of Panama equipment, shipment of which had been deferred to season of 1919.

Other unadjusted credits:

| | | |
|---|---|---|
| Meal tickets and coupons | $26,306.23 | |
| Brass checks | 477.88 | |
| Alaska Northern material | 31,138.00 | |
| Unadjusted collections | 7,955.92 | |
| Unadjusted miscellaneous receipts | 2,296.99 | |
| Sundry | 12,651.30 | |
| Total | | $80,826.32 |
| Grand total | | 32,974,847.61 |

*Estimated general allocation of expenditures on completion of construction.*

| | Completed to Mar. 31, 1919. | To complete. | Total. | Estimated general expenditures on completion, allocated. | | Grand total. |
|---|---|---|---|---|---|---|
| Road: | | | | | | |
| New work | $17,099,428.36 | $14,029,307.05 | $31,128,735.41 | 0.6623 | $1,197,325.76 | $32,326,061.17 |
| Alaska Northern R. R., purchase and reconstruction | 2,970,523.29 | 1,718,182.64 | 4,688,705.93 | .0998 | 180,421.43 | 4,869,127.36 |
| Tanana Valley Ry., purchase and rehabilitation | 344,858.23 | 84,300.00 | 429,158.23 | .0091 | 16,451.25 | 445,609.48 |
| Terminal structures | 1,602,014.06 | 500,295.90 | 2,102,309.96 | .0447 | 80,810.00 | 2,183,119.96 |
| Rolling stock, equipment, and machinery | 2,665,861.11 | 1,081,366.68 | 3,747,227.79 | .0797 | 144,084.04 | 3,891,311.83 |
| Physical property | 645,813.67 | | 645,813.67 | .0137 | 24,767.27 | 670,580.94 |
| Maintenance and operation, expenses | 1,543,115.81 | 2,716,906.00 | 4,260,021.81 | .0907 | 163,970.17 | 4,423,991.98 |
| | 26,871,614.53 | 20,130,358.27 | 47,001,972.80 | 1.0000 | 1,807,829.92 | 48,809,802.72 |
| Materials and supplies, unapplied and on hand upon completion, approximately | | | | | | 1,200,000.00 |
| Unadjusted debits and miscellaneous items, part of which will be allocated to above accounts | | | | | | 427,168.28 |
| Total | | | | | | 50,436,971.00 |

*Estimated average cost of railroad per mile, exclusive of cost of terminals, rolling stock, physical property, and maintenance and operation cost, but including costs for general expenditures estimated at $2,400 per mile, on completion of construction.*

| | Miles. | Average cost per mile (approximate). |
|---|---|---|
| Mile 0 to mile 70.7, Seward to Kern Creek | 70.7 | $68,700 |
| Mile 70.7 to mile 79.3, Kern to end Seward Division | 8.6 | 234,000 |
| Mile 79.3 to mile 100.6, end Seward Division to Potter Creek | 21.3 | 137,900 |
| Mile 100.6 to mile 114.3, Potter Creek to Anchorage | 13.7 | 67,100 |
| Mile 114.3 to mile 150.9, Anchorage to Matanuska Junction | 36.6 | 44,400 |
| Matanuska Branch | 37.7 | 62,100 |
| Mile 150.9 to mile 203.2, Matanuska Junction to Sheep Creek | 52.3 | 48,500 |
| Mile 203.2 to mile 265, Sheep Creek to Susitna Crossing | 61.8 | 62,300 |
| Mile 265 to mile 290, Susitna Crossing to Chulitna, including crossing at Susitna River and Hurricane Gulch | 25.0 | 123,000 |
| Mile 290 to mile 365, Chulitna to Lignite | 75.0 | 74,100 |
| Mile 365 to mile 413.3, Lignite to Nenana, including crossing of Nenana River | 48.3 | 72,700 |
| Mile 413.3 to 470.7, Nenana to Fairbanks, including crossing of Tanana River | 57.4 | 54,600 |

Cost for main line and Matanuska Branch, totaling 508.4 miles, with above exclusions, but including construction of sidings, roadway buildings, telephone and telegraph, etc., is about $73,200 per mile.

Adding to the estimated cost of the road the expenditures for terminals, construction and floating equipment, and machinery sufficient for all needs of operation makes the average cost about $80,600 per mile.

Adding to both the above the estimated cost of all rolling stock purchased and contemplated in the estimate, makes the average cost of the project about $85,100 per mile.

Adding to all of the above inclusions the estimated cost for maintenance and operation to end of 1921, which should not be considered as any portion of the cost of the road or its equipment, would bring the average cost per mile for the project to about $93,800.

On the completion of the project all advances by the United States Government are estimated to total $50,436,971, which on a basis of 508.4 miles of main line and Matanuska Branch is an average cost of $99,200 per mile.

This total expenditure of $50,436,971 includes:

1. Construction and equipment of 437.7 miles of standard gauge main line and Matanuska Branch.

2. Construction of 53.9 miles of standard gauge spurs and sidings.

3. Purchase and reconstruction of 70.7 miles standard gauge main line and its equipment (formerly Alaska Northern Railroad).

4. Purchase and rehabilitation of Tanana Valley Railroad, 44.2 miles in length; also 1.9 miles of sidings. Seven miles of this road is being reconstructed as part of main line and equipped for both narrow and standard gauge operation. Thirty-six and eight-tenths miles are under rehabilitation and will be operated as the narrow gauge Chatanika and Chena branches.

A total of 508.4 miles of standard gauge main line and Matanuska branch; 53.9 miles standard gauge spurs and sidings; 36.8 miles of narrow gauge branches and 1.9 miles narrow gauge sidings—a grand total of 601 miles of track.

5. Purchase, construction and equipment of all necessary terminal facilities, including harbor improvements at Anchorage, dock and wharf facilities at Seward, Anchorage and Nenana. All necessary roundhouse, machine shop, maintenance, office, storage and station structures at all terminal and subterminal points—Seward, Kern, Anchorage, Matanuska, Eska, Chickaloon, Talkeetna, Summit, Nenana, and Fairbanks.

6. Rolling stock, construction, operating and marine equipment and machinery that as far as now can be estimated fully provides for all operating requirements.

7. Physical property including:

Operating of coal mines that assure an adequate and independent fuel supply.

Construction and operation of modern hospitals fully equipped at Anchorage and Nenana.

Installation and operation of water, light, sewerage, sanitation and other necessary public utilities, the cost of which will be refunded to the project, at Anchorage and Nenana.

8. Upbuilding of traffic through encouragement of industries and settlement of the country by a separate department.

9. Maintenance and operating expenses in excess of revenue during entire period of reconstruction from 1915 to end of 1921, estimated to total $4,423,991.98.

10. Materials and supplies in reserve on completion of the work that will be available for betterments, maintenance, shop and commissary requirements of an estimated value of $1,200,000.

The cost of construction of the Copper River and Northwestern Railway, 194.98 miles in length, extending from Cordova to Kennicott, Alaska, is given in the hearings on the Alaska case before the Interstate Commerce Commission at about $83,000 per mile. The book value of this railway in its return to the Interstate Commerce Commission for the year 1917 is given as $146,090.39 per mile. The grades for the last 65 miles on this road are 4 per cent. This road is not equipped as completely, even proportionately to its length, as the Government railroad in terminals, rolling stock, construction, operating and marine equipment, machinery and physical property.

The Pacific and Arctic Railway and Navigation Co., owning the White Pass and Yukon Railway from Skagway to the international boundary at the summit of White Pass, a distance of 20.4 miles, shows in its return to the Interstate Commerce Commission for the year 1917 a book value of $115,343.68 per mile. This road is narrow gauge with 4 per cent grades.

*Increase in cost of labor, material, and equipment over costs of 1915. Compiled from expenditures, Anchorage Division.*

| | Per cent increase over 1915. | | | Average for entire period. |
|---|---|---|---|---|
| | 1916 | 1917 | 1918 | |
| Labor | 25 | 48 | 59 | [1] 39.8 |
| Lumber—delivered | 30.7 | 41.5 | 91.4 | [1] 39 |
| Rail | | | 33.3 | |
| Iron | | | 106 | |
| Sugar | | 38 | (2) | |
| Flour | | 110 | (2) | |
| Ham | | 115 | (2) | |
| Bacon | | 161 | (2) | |
| Beef—fresh | | | 71 | |
| Hay | | | 72 | |
| Oats | | | 120 | |
| Ocean freight | | | 115 | |
| Railroad freight | | | 147 | |

[1] This low average of increase in cost is due to the greater volume of expenditures in the years 1916 and 1917 when the unit prices were lowest.

[2] No purchases in 1918.

| | |
|---|---|
| Actual expenditures Anchorage division to end 1918 | $18,537,317.61 |
| On basis of 1915 costs would be | 13,862,466.48 |
| Expenditures due to increased costs | 4,674,851.13 |
| Applying same percentage to all divisions the total of increased expenditures due to increased costs to end 1918 is | 7,447,051.68 |

*Estimated cost of new work, completed, from Kern Creek to Fairbanks, including Matanuska branch, totaling 437.7 miles, compared with estimate of 1915.*

| | | |
|---|---|---|
| Expended to Mar. 31, 1919 | $17,099,428.36 | |
| Estimated to complete | 14,029,307.05 | |
| General expenditures, approximate proportion | 1,197,325.76 | |
| | 32,326,061.17 | |
| Less cost preliminary surveys and examinations included in above, not included in estimate of 1915. | 431,537.29 | |
| | | $31,894,523.88 |
| Estimate of 1915: | | |
| Kern Creek to Fairbanks | 22,621,798.00 | |
| Matanuska branch | 1,766,684.00 | |
| Ship Creek branch, now part of main line | 123,635.00 | |
| | | 24,512,117.00 |
| Excess over 1915 estimate | | [1] 7,382,406.88 |

On March 31, 1919, there had been laid on the above-described portion of the work 37.2 miles of sidings and spurs, and the estimates to complete provide for 16.7 miles of additional sidings, or a total of 53.9 miles.

The original estimate provided for only 20.23 miles of sidings.

The average increase in compensation for labor, in 1918, over the cost in 1915, was 59 per cent, lumber delivered was 91.4 per cent, iron delivered 106 per cent, ocean freight 115 per cent, railroad freight 147 per cent, while supplies ranged from about 25 per cent to 161 per cent over the costs of 1915.

The low increase of cost, 30.1 per cent over the estimate of 1915, for the completion of construction of the road, despite the greatly increased cost of labor, material, and supplies, is due to the saving in costs over the units used in the 1915 estimates for excavation, this saving tending to offset in considerable part the great increase in cost of all construction material and supplies. The 1915 estimate was evidently made up and considered principally for a comparison of routes, as it contained only such necessary terminals as would be required by a contractor in constructing the road, without any provision for operation. It did not provide for the purchase of the Alaska Northern Railway and the Tanana Valley Railroad, the cost of maintenance and operation during construction, and made no provision for rolling stock or miscellaneous physical property.

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[1] Or 30.1 per cent.

In order to make any proper comparison with the 1915 estimate, it is necessary first, to group under road such expenditures as were contemplated in the 1915 estimate. General expenditures, estimated to total $1,807,829.91, I have proportioned among the several groups pro rata to their totals.

A portion of the cost of maintenance and operation during construction for transportation of material and supplies not now allocated, and of construction equipment, should undoubtedly be included, but we have no present basis for any proper estimate of these charges; and as a considerable portion of the construction equipment will be found of value to the railroad after completion, while the remaining portion will have a salvage value, any proper allocation to cover these items would not materially affect the results.

The purpose of this segregation is simply to arrive at an approximate basis of comparison with the original estimate, as a basis for weighing results accomplished during a period of unsettled conditions and rapidly increasing costs. This, I believe, has been closely approximated. Other than for such comparison, this segregation has little value, except as it shows the proportional cost of each phase of the work.

### RECONSTRUCTION, ALASKA NORTHERN RAILROAD—FINAL AND PRELIMINARY ESTIMATES COMPARED.

The reconstruction of the Alaska Northern Railroad has entailed far more work than was contemplated under the original estimate. There has been expended to date, $1,801,155.08, and the estimated cost to complete is $1,718,182.64, or a total of $3,519,337.72, in addition to the proportion of general expenditures not allocated. This was estimated to cost $955,601. The accompanying table of estimated quantities to complete reconstruction, compared with the quantities contemplated by the original estimate, shows that the work to complete has exceeded that originally deemed necessary by nearly the same proportion in quantity that it has in cost:

| | Estimated to complete. | Estimate, 1915. |
|---|---|---|
| Clearing, acres | 613.57 | |
| Grubbing, acres | 19.29 | |
| Grading: | | |
| Common, cubic yards | 1,364,916 | [1] 631,580 |
| Loose rock, cubic yards | 47,504 | 31,620 |
| Solid rock, cubic yards | 440,503 | 10,510 |
| Frozen, cubic yards | 48,824 | |
| Overhaul, cubic yards | 318,109 | |
| Rock fill | 34,371 | |
| Trestles, linear feet | 2,645 | 1,008 |
| Bridges, trestles, and culverts: | | |
| Lumber, feet b. m | 5,927,807 | [2] 5,213,963 |
| Piles, linear feet | 230,405 | |
| Logs, linear feet | 85,092 | [2] 171,360 |
| Iron, pounds | 1,509,727 | [2] 926,403 |
| Exacavations, cubic yards | 7,635 | |
| Concrete | 3,379 | |
| Riprap | 30,412 | 51,230 |
| Snowsheds, linear feet | 1,500 | |
| Rail | $56,301.78 | |
| Ties | 201,010 | 86,950 |
| Other track material | $18,144.79 | |
| Ballast | 190,486 | 56,280 |
| Track laying and surfacing | $68,013.21 | |

[1] 88,260 cubic yards fill, at 40 cents.
8,050 cubic yards excavation.
17,260 cubic yards ditch excavation.
500,000 cubic yards (assume) item reads: "Widening fills and cuts, $200,000." Aussume, at 40 cents per cubic yard.

613,570

[2] 1. 41,971 feet, bridges, at $6.
2. 2,142 feet, track boxes, at $30.

To reduce—

1. Assuming 113 feet b. m. lumber and 18.5 pounds iron per linear foot, which, on costs of 1914, would total in place $6, the quantities would be, lumber, 4,742,723 feet b. m., iron, 776,463 pounds.

2. Applying same deductions as to (1) the total quantities are, lumber, 471,240 feet. b. m.; iron, 149,940 pounds: logs, 171,360 linear feet.

| | Estimated to complete. | Estimate 1915. |
|---|---|---|
| Bridges, trestles, and culverts—Continued. | | |
| Tunnels | [1] $132,942.42 | [2] $89,670 |
| Extra dikes | | $3,750 |
| Land for transportation purposes | $1,205.00 | |
| Engineering | $328,279.52 | $86,872 |
| Crossings and signs | $34.64 | |
| Roadway buildings | $17,872.38 | |
| Water stations | $22,292.63 | |
| Fuel stations | $1,515.51 | |
| Other expenditures, road | $181,211.46 | |
| Unapplied construction, material, and supplies | $18,336.84 | |

| | |
|---|---|
| [1] Expended in enlarging and tunneling | $29,166.42 |
| Timbering portals | 1,887.00 |
| Timbering portals | 9,009.00 |
| Enlarging | 92,880.00 |
| | 132,942.42 |
| [2] 14 tunnel portals, at $345 | $4,830 |
| 3,030 linear feet tunnel lining, at $28 | 84,840 |
| | 89,670 |

### *United States Government Alaska Railroad.*

| | Miles. |
|---|---|
| Standard gauge: | |
| Seward to Fairbanks | 470.7 |
| Matanuska branch | 37.7 |
| Total | 508.4 |
| Narrow gauge: | |
| Chatanika branch | 31.8 |
| Chena branch | 5.0 |
| Total | 36.8 |
| Grand total | 545.2 |

### *Progress of construction to May 31, 1919—Track in place.*

| | Miles. | New work (miles). | Total (miles). |
|---|---|---|---|
| STANDARD GAUGE. | | | |
| Main line: | | | |
| Mile 0 to mile 70.7, Alaska Northern Ry.[1] | 70.70 | | |
| Mile 70.7 to mile 227.4, new work | | 156.70 | |
| Mile 365.5 to mile 413.34, new work | | 47.84 | |
| Mile 414.97 to mile 415.24, new work [2] | | .27 | |
| Mile 453.48 to mile 463.34, new work [2] | | 9.86 | |
| Mile 463.34 to mile 470.7, Tanana Valley R. R.[3] | 7.36 | | |
| | 78.06 | 214.67 | 292.73 |
| Matanuska branch | | 37.70 | |
| Total | 78.06 | 252.37 | 330.43 |
| NARROW GAUGE. | | | |
| Chatanika branch | 31.80 | | |
| Chena branch | 5.00 | | 36.80 |
| Total | | | 367.23 |

[1] Under reconstruction.
[2] Road constructed for standard gauge; track laid temporarily as narrow gauge.
[3] Narrow gauge, being reconstructed for both standard and narrow gauge.

| | Miles. |
|---|---|
| Grade complete, ready for track laying | 36.17 |
| Grade under way | 35.80 |
| Cleared | 7.00 |

### *Sidings, spurs, and wyes.*

| | Miles. | | | | |
|---|---|---|---|---|---|
| | Sidings. | Spurs. | Temporary spurs. | Wyes. | Total. |
| STANDARD GAUGE. | | | | | |
| Seward terminals | 2.39 | ........ | ........ | ........ | 2.39 |
| Seward to Anchorgage | 4.3 | 0.41 | 0.90 | 1.1 | 6.71 |
| Anchorage terminals | 8.5 | ........ | ........ | ........ | 8.5 |
| Anchorage to Talkeetna | 6.08 | .51 | ........ | ........ | 6.59 |
| Mile 366 to mile 463 | 3.07 | (1) | ........ | ........ | 3.07 |
| Nenana terminals | 2.95 | ........ | ........ | ........ | 2.95 |
| North Nenana | 1.08 | ........ | ........ | ........ | 1.08 |
| Matanuska branch | 6.13 | 3.20 | ........ | ........ | 9.33 |
| Total | 34.50 | 4.12 | .90 | 1.1 | 40.62 |
| Sidings graded ready for track | 1.25 | ........ | ........ | ........ | ........ |
| NARROW GAUGE. | | | | | |
| Fairbanks terminals and Ester siding | 1.18 | ........ | ........ | ........ | ........ |
| Chatanika branch | .75 | ........ | ........ | ........ | ........ |
| Total | 1.93 | (2) | ........ | ........ | ........ |

[1] Sidings and spurs. [2] Not segregated.

## DESCRIPTION.

The United States Government Alaskan Railroad includes:

Main line (standard gauge) extending from Seward to Fairbanks, a distance of 470.7 miles.

Matanuska branch (standard gauge) 37.7 miles in length, extending from mile 150.9 on the main line to Chickaloon in the Mantanuka coal field. The Eska spur, 2.7 miles in length, leaves the Matanuska branch at mile 18.5.

Chatanika branch (narrow gauge) 31.8 miles in length, extending from mile 463.3 on the main line to Chatanika.

Chena Branch (narrow gauge) extending from mile 466.5 on the main line, a distance of 5 miles to Chena.

A total of 508.4 miles of standard gauge line of which 7.4 miles will be constructed for both standard and narrow gauge; 36.8 miles of narrow gauge branches, and a grand total of 545.2 miles both standard and narrow gauge lines.

From Seward to Kern Creek, mile 70.7, the main line follows the old line of the Alaska Northern Railway, now a part of the Government system. This road, constructed in 1903 to 1906, was very lightly built, and will have to be entirely reconstructed. Except when blocked by snow slides, the line is operated with light equipment. The reconstruction of this line is now about 51 per cent complete in cost. The remaining work to be done constitutes the more costly, and consists in great part in the rebuilding of bridges, and filling, trestles, construction of snowsheds, and in enlarging tunnels.

## PROGRESS OF CONSTRUCTION, MAY 31, 1919.

Track was in place on the main line from Seward, mile 0 to mile 227.4; from mile 365.5 to mile 413.34 Nenana; from mile 414.97 to mile 415.24; and from mile 453.48 to mile 470.7 at Fairbanks, a total of 292.73 miles of track in place, of which 214.67 miles was new work, 70.7 miles the Alaska Northern Railway, and 7.36 miles the Tanana Valley Railroad. In addition to the 292.73 miles of track in place on the main line, the Matanuska branch is complete to Chickaloon, a distance of 37.7 miles, or a total of 252.37 miles of new road, and a total of 330.43 miles of standard-gauge track in place, including new and old road, in addition to which there is a total of 36.8 miles of narrow-gauge track in the Chatanika and Chena branches, or a grand total of 369.93 miles of track in place.

Additional work includes the construction of 34.50 miles of sidings, 4.12 miles of spurs, 0.90 miles of temporary spurs, and 1.1 miles of wyes, or a total of 40.62 miles. Sidings have also been graded, and are ready for track laying to a length of 1.25 miles. The total length of narrow-gauge sidings is 1.93 miles.

In addition to the line completed and on which track has been laid, the following work has been accomplished: Grading of road for track laying, 36.17 miles; grade under way, 35.8 miles; cleared ready for grading, 7 miles.

As will be noted from the estimate sheets and the accompanying map, work remains to be done on some portions on which track is in place, consisting of riprapping, ballasting, erection of bridges, widening tunnels, and constructing snowsheds, practically the greater part of which is located between miles 47 and 54 in the descent from the Placer River divide and along Turnagain Arm.

From mile 463.3 to Fairbanks the Government railway follows the line of the Tanana Valley Railroad, now a part of the Government system. This distance of 7.4 miles is being reconstructed for both standard and narrow gauge. The Chatanika branch and the Chena branch are both part of the old Tanana Valley Railroad.

### TYPE OF ROAD.

The Alaska Railroad under construction by the Government is being well built so as to economically handle heavy pioneer traffic, and reduce, as far as practicable, the cost of maintenance. The road is of the pioneer transcontinental type, substantially built, so as to withstand the unusual Alaska climatic conditions. All unnecessary work is, however, being carefully avoided.

The roadbed is 20 feet wide in cuts and 18 feet wide on fills narrowed to 18 and 16 feet, respectively, where conditions will safely permit. Maximum grades are 2.2 per cent north bound, and 1.5 per cent south bound, with the exception of the first 7.07 miles, on which the grades are 2.2 per cent in both directions. The maximum grades from Chickaloon in the Matanuska coal field to Anchorage are plus 0.4 per cent and minus 1 per cent. Maximum curvature on the main line, with the exception of the first 70.7 miles, and on the Matanuska branch line is 10° compensated. On the first 70.7 miles are a number of 14° curves in the descent from the Placer River divide. The road is being laid with 70-pound rail. Ties are standard 7 inches by 8 inches by 8 feet, with 5 inches of ballast under the center of the tie. All minor structures are of standard design for Cooper's class E-50, steel structures are designed for Cooper's class E-65.

### DESCRIPTION OF LINE AND GRADES.

From Seward, the southern terminus, the main line traverses the valleys of Resurrection and Salmon Rivers on undulating maximum 1.1 per cent grades to mile 6, where it ascends on 2.2 per cent grades to the Snow River divide at mile 12.3, elevation 700 feet. From Snow River divide the descent is on a 2.2 per cent grade to mile 14.4, elevation 498 feet, where the Snow River is crossed and the basins of Kenai and Trail Lakes and the Trail Creek Valley are followed on minor undulating grades to mile 37, elevation 516 feet; from mile 37 the line ascends on 2 per cent grades to the Placer River Summit at mile 44, elevation 1,063 feet.

From the Placer River Summit the road descends through the upper basin of the Placer River on minus 2.2 per cent grades to mile 56 in the lower Placer River Valley. This portion of the line is of very heavy construction, including a number of short tunnels, totaling in length 4,104 feet; a number of loops, in large part on trestle, one of which is a complete loop; four crossings over Placer River and two sections 1,500 feet in length that will have to be protected by snowsheds. Practically all of this heavy work will have to be reconstructed.

From mile 54 to mile 65 the line follows the lower Placer River Valley on maximum minus 1.3 per cent grades. From mile 65 to mile 102.5 the north shore of Turnagain Arm is followed on undulating plus 0.6 per cent and minus 0.5 per cent grades, at an elevation of from 22 to 62 feet above high water. On this section now completed is the heaviest work encountered on any portion of the line. Two continuous miles required a total excavation of 300,000 cubic yards of solid rock. On this section a total of at least 7,450 feet of snowsheds will have to be constructed.

From mile 102.5 the line ascends on a 1 per cent grade to the summit of the Point Campbell Bench at mile 18.4, whence there is a descent on a minus 0.75 per cent grade to Anchorage at mile 114.35.

From Anchorage the line ascends on a plus 1 per cent grade to mile 120.5, elevation 238 feet. From mile 120.5 a rolling bench is followed on undulating grades of plus 0.4 per cent and minus 0.4 per cent grades to mile 128.2, elevation 206 feet, whence the line descends on minus 0.4 per cent grades to mile 139.8, elevation 25 feet. In the next mile there is an ascent of 33 feet, whence the line descends on minus 0.4 per cent grades to mile 142.8 on the southeast shore of Knik Arm, which is followed to mile 146.5 where the line crosses the Knik and Matanuska Rivers and valleys to Matanuska Junction at the north margin of the Matanuska Valley, mile 150.9.

At Matanuska, the junction with the Matanuska branch, the line swings west and at mile 154.5 ascends on a maximum 1 per cent grade to mile 159.8, the top of the Matanuska-Susitna Plateau, elevation 232 feet. This plateau is followed to mile 174.26 where the Little Susitna River is crossed and the line swings northward into the valley of the Susitna, which is followed on maximum grades of plus 1 per cent and minus 1 per cent to a crossing of the Susitna River at mile 265. From mile 265 the line ascends the valley of Indian River to mile 269.9, elevation 1,021 feet, from which point there is an ascent on maximum 1.75 per cent grades through Chulitna Pass at mile 276 to mile 280.2.

Undulating grades of minus 0.6 per cent and plus 1 per cent are followed to mile 284, elevation 1,795 feet, from which point there is a descent on maximum minus 1.5 per cent grades to mile 288.9, elevation 1,461 feet, whence the line ascends through the valleys of the east and middle forks of the Chulitna River on maximum 1 per cent grades to the summit of Broad Pass at mile 313.2, elevation 2,418 feet.

The descent from Broad Pass through the valley of the Nenana River is on maximum minus 1.5 per cent and plus 1 per cent grades to mile 384, from which point the grade is maximum 0.5 per cent to Nenana at mile 414, elevation 356 feet. At Nenana the Tanana River is crossed. From the Tanana River crossing to mile 432 the line is on undulating grades of minus 1.4 per cent and plus 0.4 per cent to a crossing of Gold Stream at mile 432, elevation 361 feet, whence the valley of Gold Stream is followed on plus 0.4 per cent grades to Happy, the junction of the Chatanika branch, at mile 463.3, elevation 602 feet. From Happy the descent is on maximum minus 1 per cent grades to Fairbanks at mile 470.7, elevation 439 feet.

## MATANUSKA BRANCH.

The Matanuska branch leaves the main line at mile 150.9, elevation 27 feet, and ascends on maximum 1 per cent grades to mile 7.15, whence it descends on minus 0.4 per cent grades to mile 9.3, in Matanuska Valley. The line follows the north side of the valley on maximum plus 1 per cent grades, to mile 36, where it swings north into the valley of the Chickaloon River to the terminus at Chickaloon, a total length of 37.7 miles.

The Eska spur leaves the Matanuska branch at mile 18.5 and extends 2.7 miles up Eska Creek to the Eska coal mine, on maximum grades of plus 4 and 5 per cent.

## CHATANIKA BRANCH.

The Chatanika branch (narrow gauge) leaves the main line at Happy, mile 363.3, and extends through the Fairbanks mining district, crossing the Chatanika divide at mile 21.9, elevation 1,423 feet; whence it descends into the valley of the Chatanika and ascends the latter to the terminus at Chatanika, 31.8 miles from Happy; elevation about 650 feet. The maximum grades on this line are about 3 per cent.

## CHENA BRANCH.

The Chena branch (narrow gauge) leaves the main line at mile 466.5, or 4.2 miles from Fairbanks, and extends down the Tanana Valley a distance of 5 miles to the terminus at Chena.

## BUILDINGS PURCHASED AND ERECTED BY COMMISSION.

*Seward.*—Wharf, office, engine, machine, warehouses 4, depot, sand, oil, dwellings 4; total, 15.

Roadway buildings are located at Summit, Primrose, Lakeview, Roosevelt, Trail Lake, Moose, Hunter, Grand View, Kern, Bird, Indian, Rainbow, Potter, and Campbell; a total of 50.

*Anchorage.*—Wharf, marine shops, warehouses 3, general office, machine, power. round, oil, storage, watchmen 2, powder 3, station, freight, pumping, tool, paint, record, blacksmith, lumber, carpenter, steel, telephone and telegraph, heating plant, fire engine, cold storage, stables 2, harness, bunk houses 3, mess, soldiers' guard, employees' dwellings 40, hospital, town site 4, miscellaneous 14; a total of 96.

Between Anchorage and Indian River, buildings are erected at Whitney, Kuney, Birchwood, Eklutna, Matanuska, Wasilla, Pitman, Houston, Montana, Talkeetna, camp 236, Dead Horse, camp 255, and Indian River that number 66.

*Matanuska branch.*—At Palmer, mile 8, Moose Creek, Eska, Granite, camp 27, and Chickaloon; total, 81.

Between mile 365 and Nenana are buildings at camps 373, 379, and 385 totaling in number 12.

*Nenana.*—Wharf, warehouses 2, tool, power, carpenter, paint, machine, engine, heating plant, general office building, tin, planer, and lumber, sawmill, blacksmith, harness, oil, pump, powder, ice, commissary, telephone and telegraph, hospital, employees' dwellings 11, barn, bunk houses 3, mess, miscellaneous 8; a total of 47.

Between Nenana and Fairbanks at north bank Tanana, camps 432, 440, 449, and 454; a total of 30.

*Fairbanks.*—Round, office, and station, warehouse.

*Chatanika branch.*—Buildings are erected at Fox, Gilmore, Olnes, and Chatanika. A total of 404 buildings on the entire system.

## ROLLING STOCK AND EQUIPMENT ON HAND.

*Seward.*—Locomotives, 7; flat cars, 19; box cars, 12; cabooses, 3; coaches, 2; ballast cars, 4; camp car, 1; dump cars, 40; pile drivers, 4; steam shovels, 2; ballast speeder, McCain, 1; narrow-gauge dump cars, 4;

*Anchorage.*—Steam locomotives, 14; tank, 1; cabooses, 9; box cars, 29; stock cars, 4; gondola cars, 31; refrigerator cars, 8; flat cars, 190; Hart convertible cars, 30; coal car, 1; tank car, 1; Western dump car, 1; observation car, 1; passenger cars, 4; baggage and mail car, 1; outfit cars, 31; Oliver dump cars, 68; official car, 1; Roger ballast cars, 39; ditching machine, 1; Lidgerwood spreader, 1; unloader, 1; Jordan spreader, 1; dinky locomotives, 10; Bucyrus piledriver, 1; skid piledrivers, 5; track driver, 1; derrick cars, 2; locomotive cranes, 2; steam shovels, 7; Western dump cars, 34; dredge, 1; gasoline launches, 4; tug, 1; river boat, wood-burner, 1; tow boats, 1 steam, 2 gas, stern-wheeler, oil burner, 1; B. and B. boats, 3; barges, sea-going, 14; lighters, 11.

*Fairbanks.*—Locomotive and tender, 1; locomotives, 5; box cars, 2; box cars, narrow gauge, 3; flat cars, 28; flat cars, narrow gauge, 6; combination passenger coach, 1; coach, narrow gauge, 1; steam shovels, 3; ditch, 1; derrick, 1; hoisting engine, 1; dump cars, 39; Calyx drill, 1; locomotive crane, 1; dinky engines, 3; work cars, 2; road grader, 1; camp cars, 42; Dragline excavator, 1; piledrivers, 4; track driver, 1; gravel plows, 2; Lidgerwood unloader, 1; Hart convertible cars, 10; snow plow and car, 1; unloader plow, 1; launches, 3; scows, 6; piledriver; work cars, 4.

## RESOURCES OF TRIBUTARY REGIONS.

*Mineral production of districts tributary to United States Government Alaska railroad to end 1918.*

[From reports of United States Geological Survey.]

| | |
|---|---|
| Kenai Peninsula and Turnagain Arm: | |
| Gold placer | $1,675,000 |
| Gold lode | 121,600 |
| Willow Creek district: | |
| Gold lode | 1,608,750 |
| Silver lode | 4,182 |
| Yentna district, gold placer | 975,000 |
| Valdez Creek, gold placer | 388,000 |
| Kantishna, gold placer | 415,000 |
| Bonnifield district, gold placer | 253,000 |
| Fairbanks district: | |
| Gold placer | 69,742,519 |
| Gold lode | 1,181,712 |
| Silver lode | 8,097 |
| Antimony | 218,500 |
| Tungsten | 107,000 |
| Salchaket-Tenderfoot district, gold placer | $1,710,000 |
| Tolovana district, gold placer | 2,800,000 |
| Hot Springs district, gold placer | 6,035,816 |
| Rampart district, gold placer | 1,513,527 |
| Ruby district, gold placer | 4,696,000 |
| Koyukuk district, gold placer | 4,459,100 |
| Chandalar district, gold placer | 109,000 |
| Circle district, gold placer | 6,427,312 |
| Eagle and Seventy-Mile districts, gold placer | 272,000 |
| Forty Mile district, gold placer | 6,285,000 |
| | $111,006,121 |

*Kenai Peninsula and Turnagain Arm.*—From Seward to Anchorage, the Alaska Railroad passes through the Kenai Peninsula and skirts the northern shore of Turnagain Arm. This region has produced in placer gold $1,675,000 and in gold derived from quartz $121,600. Ten properties are equipped with mills ranging in capacity from an arrastra to a five-stamp mill.

The Willow Creek district is situated about 20 miles north of the Government railroad at Wasilla, mile 160, and is connected with Wasilla by a wagon road. This district has produced from gold quartz operations $1,608,756 in gold and $4,182 in silver. Production in 1918 was approximately $270,000 gold. Five properties are equipped with mills ranging in capacity to that of 12 stamps. On 13 other properties important, and, in some instances, extensive development work has been accomplished. The wagon road connecting this mining district with the railroad is of the earth type of road and unsuitable for heavy traffic. The graveling of this road and its improvement so as to be suitable for heavy traffic will tend to the reduction of costs and the enlargement of operations in this field.

The Talkeetna district is situated about 25 miles northeast of the railroad at Talkeetna, mile 227. In this district promising discoveries of copper and gold bearing minerals have been made and 15 to 20 groups of claims have been located. A most encouraging condition in this field is the fact that the diorite intrusive mass, in which the producing mines in the Willow Creek district are located, has been found, through the investigations of the United States Geological Survey, to extend from the headwaters of Matanuska and Chickaloon Rivers westerly to the Talkeetna and Kantishna region. A horse trail suitable for summer travel and a sled road for winter travel should be constructed into this district from Talkeetna.

The Yentna district, situated about 22 miles west of Talkeetna, mile 227, has produced approximately $975,000 in placer gold. The production in 1918 was about $200,000. The discovery of gold quartz deposits has been reported in the adjacent regions, but no development has been attempted due to the remoteness of the district and excessive cost of development. The Alaskan Road Commission has commenced construction of a wagon road from Talkeetna to this district. This work, if completed for both summer and winter travel, would provide much traffic for the railroad.

The Valdez Creek district, situated about 75 miles northeast of the railroad at Indian River, mile 266, has produced in placer gold about $388,000. This section should be connected with the railroad by a pack trail suitable for summer travel and a sled road for winter travel.

The Broad Pass district is situated about 10 miles west of the railroad at mile 295, and lies about 10 miles southwest of Broad Pass, in the headwater region of the Ohio and the west fork of the Chulitna Rivers. In this district large bodies of low-grade complex ores have been located, the principal discoveries being on some eight groups of claims, on a number of which considerable surface work has been done, and on one group about 245 feet of underground work has been driven. Success in the development of this field is dependent upon cheap transportation and on economic means of metallurgical treatment.

This district should be connected with the Government railroad by a wagon road.

The Kantishna District, situated on the interior slope of the Alaska Range, is distant from the railroad about 75 miles from the crossing of Riley Creek at Mile 350. The placer-gold production of this district has been about $415,000. Development work has been done on 16 groups of gold-lode claims on 3 groups of antimony claims, and on one galena prospect carrying gold values, but remoteness from transportation has rendered it unprofitable to develop any of the lode deposits. Doubtless, much traffic could be developed from this district if easy and economical means of communication could be established. A good wagon road connecting with the railroad at Riley Creek crossing will be the most practicable inlet to the base of Mount McKinley and is the natural gateway to the McKinley National Park, which will soon attract a large volume of tourist travel, if a road practicable for automobiles is opened. There is a natural route through a number of park-like valleys, separatedby low rolling divides, that pass through the heart of one of the best game sections in Alaska and will add to the attractions for the tourist on account of its scenic surroundings.

The Bonnifield District, located about 15 miles east of the railroad, Mile 375, has produced in placer gold about $253,000. Some development was done on lode deposits, but, due to the cost of such operations, work was discontinued. The United States Geological Survey investigators report veins carrying gold, copper, and lead. The survey in commenting on this district, which is described as extending from the Nenana River southeast a distance of approximately 60 miles, says that the evidence points to the Schist Mountains as having been the source of much of the gold, and that these mountains hold forth considerable promise to the hard-rock prospector.

The Fairbanks District has produced in placer gold, $69,742,519; in gold from lode operations, $1,181,712; in silver, $8,097; antimony, $218,500; tungsten, $107,000; or a total production of $71,257,828. Estimates of recoverable values yet remaining in proved placer areas in this district range from $50,000,000 to as high as $200,000,000. Sixteen gold quartz properties are equipped with mills ranging from that of a single stamp to a 10-stamp mill. Two tungsten properties are equipped with concentration mills. Many other lode properties have extensive development. All lode development has been financed by local capital, which is a most unusual and exceptional instance in mining development and evidences the confidence of the Alaskans in the future of this district. Operations have been conducted under more adverse conditions, with operating costs probably higher than in any other lode-mining district in the world. Labor has cost an average of $8 per day, while power has had to be generated from wood as a fuel, which has cost from $12 to $20 a cord. The cost of wood for fuel and timbering on the Rhodes-Hall mine, which is equipped with a 10-stamp mill, was for the year 1915, $20,000. A great majority of these properties have ceased operation until such time as more economical conditions prevail.

Interior districts.—The production of gold placer from the mining districts in the upper Tanana, Yukon, and Koyukuk valleys, all tributary to the railroads, has been to the end of 1918, as follows:

| | | | |
|---|---|---|---|
| Salchaket—Tenderfoot | $1,710,000 | Chandalar | 109,000 |
| Tolovana | 2,800,000 | Circle | 6,427,312 |
| Hot Springs | 6,035,816 | Eagle and Seventy Mile | 272,000 |
| Rampart | 1,513,527 | Forty Mile | 6,285,000 |
| Ruby | 4,696,000 | | |
| Koyukuk | 4,459,100 | | $34,307,755 |

The development in the above-described districts has been conducted by the most wasteful and uneconomic methods, rendering it impossible to mine any except the very richer deposits, which have been simply creamed of their richer values. All the authorities who have carefully studied these districts and the conditions under which mining has been carried on, agree that with increased and improved means of transportation which will permit of economical operations, the recoverable values of placer gold alone in these and other districts in the region tributary to the railroad will produce values far in excess of those that have been recovered. In practically all of the districts promising lode deposits have been discovered, of which no development is now possible with present uneconomical transportation conditions.

## COAL.

This railroad will open to development two of Alaska's great coal fields, the Matanuska and the Nenana, besides a number of minor fields where coal has been recently found. These are the Houston, at Mile 175: at Susitna opposite about Mile 245; the East Fork Chulitna, Mile 290: Summit, Mile 310; Burns, Mile 366; and Lynn, Mile 387. At these latter localities coal has only recently been discovered, and indications point to valuable bodies of lignite, but with the great fields at Nenana and Matanuska, these minor fields will be only of value as they may serve local and fuel needs for the railroad.

*Matanuska Field.*—The development in the Matanuska Field has not been as extensive or as productive as desired. The cause of the lack of development is, in my judgment, largely due to the lack of necessary encouragement and inducement. The high grade coal in this field is in a region of intense folding and faulting, and it is only by extensive prospecting that the areas of coal of commercial value can be determined. Under the present coal land lease act, applicable to Alaska, no prospecting privilege is possible, and it is not reasonable to expect conservative mining capital to risk its money under the terms of the act in carrying on the preliminary prospecting essential to any successful and intelligent mining operations.

The Alaskan Engineering Commission, to be assured of a fuel supply, has had to conduct its own coal mining. Its major operations have been at Eska, 2.7 miles north of the Matanuska Branch, at Mile 18.5. Eska is in the west portion of the Matanuska field, where the coal has not been subjected to as intense folding as it has in the Chickaloon and east section, with the result that the coal has not the high fuel value of the coal to the east, but has been found satisfactory for railroad purposes. The commission, in April, 1919, had a force of about 78 men employed at this mine. In 1918 this mine produced about 55,000 tons of coal. A surplus of about 25,000 tons has been accumulated in the Anchorage yard and a coal reserve has been blocked out sufficient to provide for the railroad requirements for a number of years. The reserves are of an estimated tonnage of 250,000 tons. At Chickaloon, the terminus of the Matanuska branch, a force of about 34 men were employed by the commission in April, 1919. The work of this force has been principally development and prospecting work. Results of their efforts have been to block out about 100,000 tons of high-grade blacksmith coal. They are producing about three hundred to four hundred tons of coal a month.

The Matanuska Coal Co. has been awarded a lease on Moose Creek, in the west end of the field, and it is reported to have produced approximately 4,000 tons of excellent domestic coal. The opening of a mine at this point would require a railroad spur about 5 miles in length. The Chickaloon Coal Co. holds a lease on an area adjoining the area under development by the commission at Chickaloon. The efforts of the Chickaloon Coal Co. have been centered in prospecting through cross-cut tunnels and by drilling.

The concensus of opinion of those who have studied the geological conditions in this field and who are qualified to advise is that the first essential to any intelligent and commercially profitable mining in the Matanuska field is a thorough prospecting of the ground. The present law does not in any way permit of a prospecting privilege.

The Nenana field is situated to the east of the railroad and on the opposite side of the Nenana River at mile 366. This field contains large beds of easily mined lignite of a good quality for domestic purposes. This field will undoubtedly prove to be the source of economic fuel supply for the needs of the Alaskan interior. The investigations of the Geological Survey disclose a number of beds in excess of 20 feet thick, and the total thickness of the beds now exposed is about 212 feet. It is certain that this field has sufficient tonnage of coal in sight to care for all fuel needs of the great Alaskan interior for a very long period of most active and intensive development.

Minor fields.—During the construction of the railroad a deposit of lignite was discovered at Houston, mile 175. A leasing permit was granted, and the lessees have driven about 200 feet of tunnel and mined about 200 tons of lignite. Other outcrops of coal have been discovered and opened up in the vicinity of mile 245 on the Susitna River, near mile 290, and near mile 310, in the headwater region of the Chulitna River, all of which are lignites. At mile 366 beds of lignite, evidently extensions of the Nenana field, have been opened, and about 500 tons have been mined. At mile 387 about 565 tons of low-grade lignite have been mined.

## AGRICULTURE.

Agriculture in Alaska is to-day a practical reality, but in order to be a success its development must not be pushed beyond the local market requirements, except in so far as export may be possible. The splendid work of the United States Department of Agriculture in Alaska has resulted in acclimating and perfecting seeds of all the hardier grains. All root crops, from the intensive growth due to the long hours of sunlight, are exceptionally tender and grow to a remarkable size, but beyond the local market requirements the value of these products can only be in their use for stock feed and ultimate conversion into meat and fats. The railroad traverses for a long distance fertile valleys in which homesteads are being located by the class of pioneers who settled our great West. In the Matanuska and Susitna Valleys approximately 250 locations have been made, while in the region adjacent to Fairbanks about 96 homesteads have been located. This is simply the beginning of the building of pioneer homes, that if properly fostered and coordinated with the development of Alaska's rich mineral and other natural resources, will make for a prosperous development that will be far-reaching in its effect upon the success of the railroad project and the rational development of the great Alaskan interior.

## REINDEER AND STOCK RAISING.

All now know of the remarkable results secured in the development of the reindeer industry in Alaska. Those who in early days doubted are now the loudest in praise. Starting from a band of 171 reindeer imported from Siberia in 1892 and increased by other importations to a total of 1,280 head by 1902, the herds now number in excess of 140,000, while probably 90,000 head have been killed for food. Those responsible for this wonderful success tell us that northern and western Alaska will care for at least 12,000,000 of these animals. An opportunity with like chances of success is the development of the musk-ox industry in Arctic Alaska. Under the same judicious direction that brought to success the reindeer industry the musk-ox industry should be equally successful, and with the raising of domestic animals the interior and northern Alaska should become the center of a large meat and by-products industry.

## HELP AND ENCOURAGEMENT TO PIONEER ENDEAVOR ESSENTIAL FOR THE RAILROAD.

To develop local traffic it is essential that all practicable encouragement and assistance be given to all pioneer industrial endeavor.

Mining is the basic industry of Alaska. The history of all mining regions has been that only one prospector succeeds where scores and hundreds fail. It is due chiefly to the determination, perseverance and intense optimism of the prospector that new mining districts are discovered and made productive. The first requisite to the successful mineral development of any country is that all necessary encouragement and inducement be given to the pioneer prospector and to the pioneer of small capital who will take the necessary risk to improve the value of a prospect. Large capital, accustomed to producing mines, is rarely interested in a prospect, and the prospector seldom has the funds needed to open up and improve his discovery. This condition is especially true as it pertains to Alaska, a country of unusual physical and climatic conditions. All possible inducement and encouragement, with proper safeguards against monopoly and the acquisition of large holdings, must be assured all pioneer ventures. We must secure the return to Alaska of the type of prospector to whom all credit is due for the mineral development, not only of Alaska, but of our great West. Encouragement should be rendered the mining development through the building of trails, sled roads, and, where warranted, wagon roads and branch railroads, and the lowest possible freight rates should be granted on all mining machinery and equipment essential to the development of the mineral resources.

In the agricultural development of the region through which the railroad passes, low freight rates should be granted to the pioneer homeseeker, both on his household and farm equipment and also in the export of his products.

All possible encouragement and inducement should likewise be extended to the utilization of Alaska's many other rich basic resources, and to the pioneer building of all allied industrial enterprises, as only through the building of such will be brought about the intensive activities essential to success.

### EARLY COMPLETION ESSENTIAL TO DEVELOPMENT OF INTERIOR.

The greatest ultimate gain from the construction of the Government Railroad of Alaska will be the recrudescence of the mining industry by the accomplishment of economical transportation from the open waters of the Pacific to the navigable waterways of the interior. The present avenues of communication are long, circuitous and costly water routes open for only five months of the year, the expense of which is deterrent of development throughout the vast interior of Alaska, except only of the richer placer deposits, and this condition gave rise to the wasteful methods which have resulted in creaming the gold fields.

The discovery of rich placers attracted to the Alaska interior a sturdy type of men and women and resulted in the discovery of large areas of low-grade placer ground, which, with the economies made possible by rail transportation, may be made commercially profitable; of extensive quartz deposits, a number of which have been profitably worked despite a fuel cost of from $12 to $18 per cord for wood; deposits of antimony, tungsten, placer tin, and other valuable metals, and of large areas of arable land suitable for grazing and the raising of the hardier grains and vegetables. The development of these resources is, however, almost wholly dependent upon economic transportation facilities, which can best be supplied by the Alaska Railroad now under construction by the Government. These people, looking forward to the early completion of the railroad, have been courageously hanging on and working, at a loss in many instances, in the belief that with cheaper transportation it would be possible for them successfully to develop these resources and build for themselves comfortable homes and permanent industries. The limit of ability to contend with present uneconomic conditions has been reached. They must stop unless relief is soon furnished. War conditions have added to their burdens. The gold mining industry was the first to be adversely affected by the rapid increase in costs and as these advanced costs could not be passed on to the consumer, operations were largely curtailed. As the present principal industry of the Alaskan interior is gold mining, that section was most seriously affected.

Despite these most adverse conditions, the people of the interior of Alaska took pride in furnishing their full proportion of Alaska's remarkable contribution to war service, a record that, on a per capita basis, is unequaled by any section of our own country and probably by that of any other. Intensely patriotic they gave of their all without limit, both in service in the Army, Navy, and other Government agencies and in the large oversubscription to all Liberty loans and other war activities.

In January, 1919, Fairbanks, the interior metropolis, was swept by a fire that caused a property loss of over $250,000. When asked what help was required, Fairbanks replied: "Thank you; no help needed; with the opening of navigation will rebuild." People who can show such courage and determination despite many disappointments are deserving of the little they ask—the ability to do for themselves—and the first and most pressing need is that of the economical transportation that will permit of development.

Until the country through which the railroad passes is settled and its resources developed, the road will rely in great part for its tonnage on through traffic. Delay in completing the road, therefore, not only prevents the handling of a large volume of existent traffic, but each year records a diminished volume. Each year of delay must inevitably result in the closing down of other industries. Thus not only is the prospective earning power of the railroad reduced, but of far greater moment is the loss of men and women inured to northern conditions and therefore of inestimable value in its pioneer development, who may be unable longer to continue the struggle against the uneconomic conditions prevailing throughout the greater interior of Alaska.

Delay in completing the railroad will increase its cost from the necessity of maintaining a construction organization until it is completed. This necessity is imposed by the remoteness of the project from all sources of labor supply, especially of skilled labor requisite to the prosecution of the work. It is not economical to disrupt a construction organization at the end of each working season.

The cost of operation and maintenance during construction is now a considerable amount annually. Until the railroad is completed from tidewater to the rivers of the interior, traffic development must necessarily be slow and the operations conducted with an increasing annual deficit. Completion so that through trains may carry to Fairbanks and the navigable waters of the interior the supplies which will be distributed throughout the mining regions will bring to the railroad almost immediately a tonnage of such volume as to in large measure offset these deficits. Freight rates which will materially lessen cost of mining operations promise to recreate the industry, and the potential promise is of annually increasing demands upon the facilities of the railroad.

### WORKING PLANS SHOULD EMBRACE ENTIRE OPEN SEASON.

Working plans for railroad construction in Alaska should cover the entire open working season, May to October, inclusive.

The end of the fiscal year on which all Government appropriations are based falling on June 30, in the middle of the working season, is a serious obstacle to the economical handling of all Government work in Alaska.

The economical construction of railroads in Alaska is dependent upon full use of the open working season. For all sections not reached by water transportation, the distribution of supplies and material should be made during the winter months for the following season's work.

Government construction work in Alaska, when handled on the basis of the fiscal year, is conducted only at greatly increased cost. In the completion of the Government railroad, this will be especially true as to the 100 miles of work between Mile 265 and mile 365, which can not be reached by water transportation and will have to be constructed from rail end.

The possibility of completing this railroad in 1921 is dependent wholly upon a continuing appropriation of a sufficient sum to cover the completed cost.

Without such an authorization the completion will be delayed and the cost materially increased.

As an alternative (if such appropriation is denied) authority should be granted to let station contracts covering the entire working season and to purchase and distribute the necessary construction materials and supplies during the winter to cover the next season's operations.

Only with such authorization can the work be economically completed within the time limit stated.

### TRAFFIC POSSIBILITIES.

The present conditions in the region to be served by this project are no criterion on which to base the ultimate traffic possibilities, but they do tend to show that the region is potentially rich in mineral and other resources, which, if rationally developed on a broad, constructive plan, will result in the building of permanent industries, the establishment of a permanent population, and ultimately in a large and profitable traffic. If the building of railroads through a new country awaited the growth of a sufficient traffic to warrant their construction, none of our pioneer transcontinental railroads would have been built, and our present frontier, instead of being in Alaska would probably be east of the Rocky Mountains. Traffic for the Alaskan Railroad will come from the facilities and economies afforded by the improved transportation. It has been only during the last few years that even those best able to judge would concede that Alaska will be a land of a permanent and prosperous people. No one grasped the full extent of her vast, undeveloped wealth of natural resources.

The climate will not prove any barrier to the development of Alaska and will be no deterrent to those accustomed to similar climatic conditions. Success will be attained through settlement by men and women from northern climates, and these will find that the climatic conditions prevailing through the southern and central portions of Alaska are little, if any different from those of northern Minnesota, North Dakota, Canada, and the Scandanavian Peninsula.

Norway, Sweden, and Finland, in the same latitude as Alaska, with similar climatic conditions, have a combined area about two-thirds as great as that of Alaska. These countries support a population of about 11,000,000 as against approximately 50,000 for Alaska. The Scandanavian countries have little mineral wealth other than iron, no gold, not nearly the area of arable lands or the wealth of fisheries with which Alaska has been so lavishly endowed. Finland with an area less than one-fourth the size of Alaska had a population in 1909 of 3,059,324. The total value of her products for 1909 is shown to be $79,468,200, while that of Alaska for 1918, with a population of only approximately 30,000 whites, is $81,161,561. Finland has 2,444 miles of railroad of which 2,214 miles were built and are being operated by the State.

The utilization of the resources of our great West and of northern Canada during more recent years, with a resulting growth of enormous tonnage where none formerly existed, was only brought about through the building of railroads and other improved means of transportation.

In Alaska during the last few years there has been a development that, although small, has been far reaching in its importance and has demonstrated to our people that the broad valleys of Alaska will furnish in great part the food for her people, and that agriculture will prove profitable where a local market is assured. Cultivation of the soil must, however, be secondary to the development of the mines and other natural resources, which latter must be relied upon to furnish a local market and foster agriculture during its pioneer growth.

When the railroad shall have opened the way to the economical development of the interior, the commerce and output of all products of Alaska should expand rapidly. At present, production is limited to the narrow belt of territory adjacent to the coast, to the Copper River and Northwestern Railroad, and to the navigable waterways.

During the last five years and while the United States Government Railroad has been under survey and construction, Alaska has exported from the limited area open to occupation and industry, products of a value of $335,577,700, of which gold and silver represent only $71,175,381. The total commerce of Alaska during this period was $502,098,467.

Since the purchase in 1867, the value of her exported products has been in excess of $840,000,000, while her total commerce has exceeded $1,295,000,000, an output of practically $2 for every dollar received, a result that challenges comparison with any country.

The wise utilization of Alaska's great wealth in fisheries, gold, copper, and other minerals, coal, wood, furs, and other nonmetallic products will result in permanent industries and provide homes for a strong, contented people who will be a source of inestimable strength to the Nation, and assure the early return of the cost of the railroad as well as all other governmental expenditures in Alaska.

J. L. McPherson,
*Engineer, Alaskan Engineering Commission.*

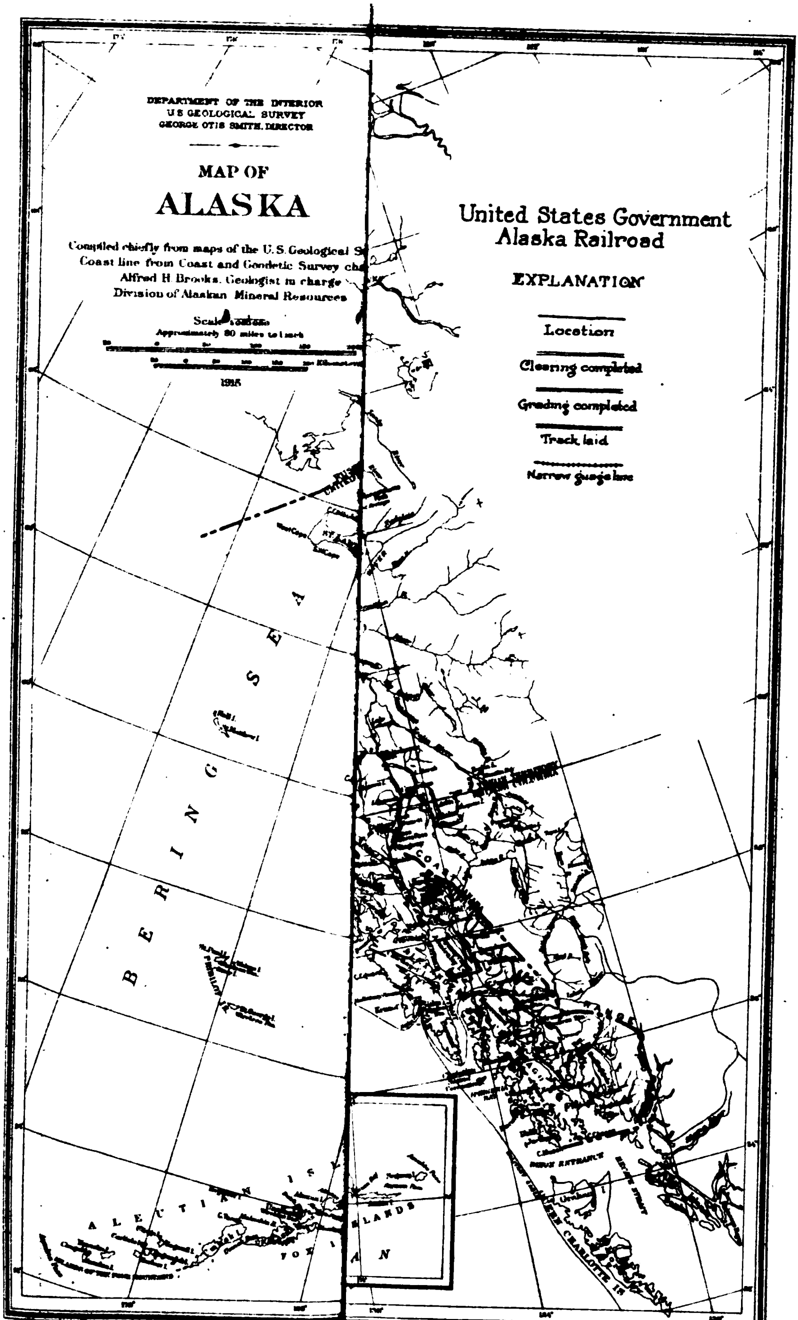
June 14, 1919.

*Alaska commerce, 1914–1918.*

| Year. | Imports. | Gold and silver. | Exports, Alaska products. | | | Total exports. | Total commerce. |
|---|---|---|---|---|---|---|---|
| | | | Miscellaneous. | Total. | Other exports. | | |
| 1914 | $21,610,860 | $14,753,910 | $24,255,189 | $39,009,099 | $1,172,684 | $40,181,783 | $61,792,643 |
| 1915 | 23,293,168 | 16,090,461 | 32,981,686 | 49,072,147 | 1,482,418 | 50,554,565 | 73,847,733 |
| 1916 | 30,834,793 | 16,321,115 | 60,980,111 | 77,301,226 | 2,284,374 | 79,585,600 | 110,420,393 |
| 1917 | 39,838,168 | 14,939,440 | 74,094,227 | 89,033,667 | 2,769,571 | 91,803,446 | 131,641,406 |
| 1918 | 40,412,258 | 8,997,455 | 72,164,106 | 81,161,561 | 2,822,473 | 83,984,034 | 124,369,292 |
| Total | 155,989,247 | 71,102,381 | 264,475,319 | 335,577,700 | 10,531,520 | 346,109,220 | 502,098,467 |

| | |
|---|---|
| Total imports | $155,989,247 |
| Total exports | 346,109,220 |
| Total commerce | 502,098,467 |
| Total export Alaska products | 335,577,700 |

Note.—Above statement does not include foreign gold and silver transshipped through Alaska.


DEPARTMENT OF THE INTERIOR
U S GEOLOGICAL SURVEY
GEORGE OTIS SMITH, DIRECTOR
MAP OF
ALASKA
Compiled chiefly from maps of the U.S. Geological S
Coast line from Coast and Geodetic Survey ch
Alfred H. Brooks, Geologist in charge
Division of Alaskan Mineral Resources
Scale
Approximately 80 miles to 1 inch
1915
United States Government
Alaska Railroad
EXPLANATION
Location
Clearing completed
Grading completed
Track laid
Narrow guage line
BERING SEA
ALEUTIAN ISLANDS
PACIFIC OCEAN
COAST
QUEEN CHARLOTTE IS

## STATEMENT OF MR. J. L. McPHERSON, ENGINEER, ALASKAN ENGINEERING COMMISSION.

Mr. McPHERSON. Referring to page 38 of my report, the United States Government Railroad in Alaska extends from Seward, on Resurrection Bay, on the south coast of Alaska, a distance of 470.7 miles to Fairbanks.

Mr. JOHNSON. Let me ask you before you start, is this report considered an official report of the Interior Department?

Mr. McPHERSON. I suppose it is; yes, sir. The report is to the Secretary of the Interior. The Matanuska branch extends from mile 151 into the Matanuska coal field, a distance of 37.7 miles. From this branch at mile 18.5 a spur 2.7 miles in length extends to Eska.

The Chatanika branch extends from mile 463.3, 31.8 miles to Chatanika, in the Fairbanks mining district; and the Chena branch extends from mile 466.5 a distance of 5 miles to Chena. This makes a total of 545.2 miles, main line and branches. Adding the spurs, makes a total of 549.3 miles of main line, branches, and spurs.

On March 31, as you will note on page 45, track in place on the main line extended for a distance of 292.75 miles, made up as follows: From Seward to Talkeetna, 227.4 miles; from mile 365.5 in the lignite coal field to mile 413.34 at Nenana, 47.84 miles; from mile 414.97 on the north bank of the Tanana River to mile 415.24, a quarter of a mile; from mile 453.48 to mile 463.34, the junction with the Tanana Valley Railroad, and from mile 463.34 to mile 470.7 over the Tanana Valley Railroad, which is being reconstructed, to Fairbanks.

The CHAIRMAN. What do you mean by "mile 463.34"?

Mr. McPHERSON. That is 463.34 miles from Seward, the southern terminus. The Matanuska branch, 37.7 miles in length, is finished, except for some minor work indicated on page 15 of my report. Track is in place on the Chatanika and Chena branch.

On March 31 there was a total of 367.23 miles of track in place. Since that date probably 5 miles of track has been laid, on the gap between Nenana and Fairbanks, which is being closed by work extended from both ends.

The CHAIRMAN. How far is that?

Mr. McPHERSON. The total gap between rail ends on July 12 was 34 miles.

The CHAIRMAN. Where is the other gap and how long is it?

Mr. McPHERSON. Between mile 227.4 and mile 265, at the crossing of the Susitna River. On March 31 about 28 miles of grade was finished and ready for track laying.

The CHAIRMAN. And that leaves how much?

Mr. McPHERSON. About 10 miles of grade that is under way. The report of the disposition of forces on July 12 shows that working in that division were 183 men, part of whom were working south of Talkeetna riprapping, and the others to the north. There were also 17 contractors engaged on station work.

The CHAIRMAN. What I would like to get in the record from you as one who knows the present condition of the road, is how much mileage has been completed over which trains are being run, and how much remains to be completed, and how much of that remainder is partially completed?

Mr. McPherson. Of the total of 545.2 miles of main line and branches, 367.23 miles have track in place and are to-day in operation. All of the remaining portion of the line, with the exception of 100 miles from mile 265 to mile 365 is in various stages of completion.

Mr. Johnson Let us start right in there now, right on the first page of your report, and let us clear this up piece by piece—

Estimate of cost to complete United States Government Alaska Railroad, March 31, 1919.

This is on page 19 of your report, the next page following the index [reading]:

Road. Alaska Northern Railway—Reconstruction. Mile 0 to mile 12, inclusive. Page 20. $22,582.55.

Now, then, we seem to have here, according to this report, from mile 0 to mile 70.7 the extent of the Alaska Northern Railroad?

Mr. McPherson. Yes, sir.

Mr. Johnson. What did the engineering commission pay for that road when they took it over?

Mr. McPherson. $1,157,839.49.

Mr. Johnson. And then they reconstructed it?

Mr. McPherson. They expended to March 31, 1919, $1,883,867.80.

Mr. Johnson. In addition to the purchase price?

Mr. McPherson. In addition to the proportion of the purchase price that was allocated to the road, which totals $1,086,664.49, the remainder of purchase price being allocated to terminals, rolling stock, materials, and supplies.

Mr. Johnson. Making a total then of how much?

Mr. McPherson. Making a total of $2,970,532.29.

Mr. Johnson. And for that did they get trackage on which they could run trains?

Mr. McPherson. They got track in place over which they could run very light equipment. Most of that has had to be reconstructed.

Mr. Johnson. Could they do a transportation business over that reconstructed road?

Mr. McPherson. They could not.

Mr. Johnson. Could they haul supplies?

Mr. McPherson. They could haul them in an inefficient way.

Mr. Johnson. Could they run heavy engines over the road?

Mr. McPherson. They could not.

Mr. Johnson. Are the bridges all in place?

Mr. McPherson. Yes; but they are all badly decayed and are all being replaced, filled, or eliminated by the construction of new line.

Mr. Johnson. And after that expenditure you have got to spend now $1,718, 182.64?

Mr. McPherson. Yes, sir.

Mr. Johnson. On the 70.7 miles of purchased railroad?

Mr. McPherson. Yes, sir.

Mr. Johnson. How many years has the Government owned it?

Mr. McPherson. The Government purchased this road, as I remember, in 1915. I would not be certain of the date.

Mr. Johnson. Is that road connected up with any construction that goes on? Is that part of the main line?

Mr. McPherson. It is part of the main line.

Mr. JOHNSON. And the main line is to run over the mountains to Anchorage?

Mr. McPHERSON. The Alaska Northern Railroad is shown on this map in yellow [indicating on map], extending from Seward to Kern Creek on Turnagain Arm, 71.7 miles.

Mr. JOHNSON. Let me make that clear. When you speak of the Alaska Northern Railroad you mean from Seward to Turnagain Arm?

Mr. McPHERSON. Yes.

Mr. JOHNSON. Or to the town of Anchorage?

Mr. McPHERSON. No, Anchorage is at mile 114.

Mr. JOHNSON. How many miles from Seward?

Mr. McPHERSON. One hundred and fourteen miles from Seward.

Mr. JOHNSON. And Turnagain Arm is 70 miles from Seward?

Mr. McPHERSON. Practically 71 miles.

Mr. JOHNSON. Now, then, the road from Turnagain Arm, what does it do? Does it follow the water?

Mr. McPHERSON. It follows the north shore of Turnagain Arm from the end of the Alaska Northern Railroad at mile 71.7 to approximately mile 102.5. Then it crosses the Point Campbell bench to Anchorage at mile 114.

Mr. JOHNSON. Is that entire piece of road then to Turnagain Arm from Seward connected up?

Mr. McPHERSON. It is.

Mr. JOHNSON. But not for traffic?

Mr. McPHERSON. Not for heavy traffic.

Mr. JOHNSON. What do you mean by that? What can go over it?

Mr. McPHERSON. Over the line from Seward to mile 71 they are running only light engines, about 30 tons in weight.

Mr. JOHNSON. Is there any passenger traffic on that road?

Mr. McPHERSON. Yes, there is considerable passenger traffic.

Mr. JOHNSON. Do you charge for passenger traffic?

Mr. McPHERSON. Yes, sir.

Mr. JOHNSON. How much per mile?

Mr. McPHERSON. The fare is, I believe, 6 cents per mile.

Mr. JOHNSON. Do you charge for freight?

Mr. McPHERSON. Yes.

Mr. JOHNSON. Is the rate light or heavy?

Mr. McPHERSON. It is light, from the Alaska standpoint.

Mr. JOHNSON. Where is the best part of the Alaska Railroad, the most nearly complete, and the most fully operated? In what section is it, do you recall that?

Mr. McPHERSON. All of the new work from Kern Creek to Talkeetna, mile 71 to mile 227, and including the Matanuska branch.

Mr. JOHNSON. About how many miles?

Mr. McPHERSON. About 182 miles. The work to be completed north of Anchorage, from mile 114 to mile 227 is estimated to cost $285,000. It consists of ballasting, $4,000; ballasting and bank widening, $129,600; riprapping, $5,000; filling and riprapping embankment, $57,000; bridge painting, $7,473.10; section tool houses and coaling stations, $39,500; telegraph and telephone, $42,530.24. This entire road is being operated—has been operated for the last year. This is simply the work to complete.

Mr. JOHNSON. That is the best piece of road you have got?

Mr. McPHERSON. It is all uniformly finished from Kern Creek to a few miles south of Talkeetna.

Mr. JOHNSON. And not in need of reconstruction?

Mr. MCPHERSON. Not in need of reconstruction; simply the finishing-up work that is always left for the last year or two of construction.

Mr. JOHNSON. That part of the road, then, could be called finished, except polishing up and ballasting?

Mr. MCPHERSON. Yes, sir; and it is a splendid piece of construction.

Mr. JOHNSON. How does the commission come to have in some places a narrow-gauge road?

Mr. MCPHERSON. The Tanana Valley Railroad, extending from Fairbanks up to Chatanika, and from Chena Junction down to Chena, approximately 44 miles in length, is a narrow-gauge railroad equipped with narrow-gauge equipment.

Mr. JOHNSON. That was a private enterprise?

Mr. MCPHERSON. A private enterprise taken over by the commission. This road for a distance of 7 miles is on the main line of the Government railroad. The last piece of work in the construction of the Government railroad will be the erection of a bridge across the Tanana River at Nenana, which it is planned to erect in the year 1922.

Mr. JOHNSON. What will be the cost of the bridge, roughly?

Mr. MCPHERSON. That bridge is estimated to cost $1,221,298.80.

Mr. BROOKS. May I ask what the length of that bridge is?

Mr. MCPHERSON. The total length is 3,544 feet, as given on page 23.

Mr. JOHNSON. What will the construction be composed of?

Mr. MCPHERSON. The south approach consists of 116 14-foot trestle spans. Then there is one 200-foot steel lift span; two 350-foot steel spans; one 56-foot pony span; 26 14-foot trestle spans; 7 56-foot pony spans; and six 14-foot trestle spans on the north end.

Mr. BROOKS. Where does all that steel construction come from?

Mr. MCPHERSON. It will all have to come from the States. That is why that structure has been left until the completion of the work, so as to save the heavy freight charge by the circuitous water route through the interior.

Mr. BROOKS. Wouldn't it be more economical and more substantial to build part of it of concrete?

Mr. MCPHERSON. The piers will be concrete. If we had waited for the completion of this bridge, the north end of the work would not have been connected through until after 1922, so we are constructing the roadbed from Fairbanks through to Nenana, as broad-gauge road, but laying the steel temporarily as narrow gauge, in order to utilize the equipment at the north end. The estimated cost of changing the track from narrow gauge to standard gauge is $25,000.

Mr. JOHNSON. What did they pay for that piece of narrow-gauge road?

Mr. MCPHERSON. $300,000.

Mr. JOHNSON. Is the estimate for the final construction of the bridge included in this sum of $17,000,000?

Mr. MCPHERSON. It is.

Mr. JOHNSON. Well, what was the amount that the commission was asking of Congress in the appropriation bill recently passed?

Mr. MCPHERSON. We asked for $12,000,000. That was so as to provide for a maximum force this summer, and provide for a maximum force throughout the entire working season of next summer.

Mr. JOHNSON. It was not in the minds of the commission or any of the engineers, however, that they could get through and finish up the railroad on that?

Mr. McPherson. We submitted a copy of this report to the Appropriations Committee, in which the estimated cost to complete by December, 1921, referring to page 18, is shown to be $50,436,971, or $15,436,971 over the $35,000,000.

Mr. Johnson. How long have you been connected with the Alaskan Railway Commission?

Mr. McPherson. I have been connected with the Alaskan Engineering Commission since March 8 of this year.

Mr. Johnson. Since March 8 of this year. Were you employed by them at any time prior to that?

Mr. McPherson. I was. In 1914 I made a reconnaissance of the Kuskokwim region for them.

Mr. Johnson. That was after the authorization of it; not the construction of the railroad?

Mr. McPherson. It was.

Mr. Johnson. How long were you employed?

Mr. McPherson. From approximately June, 1914, to January, 1915. By referring to the first letter of transmittal in this report you will note why the estimate has been increased from $15,436,000 to approximately $17,000,000. It will not now be possible to complete the road by the end of 1921, as we then had hoped, and it will probably be near the end of 1922 before the road can be finished.

Mr. Johnson. You planned on completion by December 31, 1921, except that bridge? You had no thought that that would be finished by that time?

Mr. McPherson. That bridge should be finished in 1922, or very closely finished.

Mr. Strong. What service is being rendered by the present construction beyond the bridge at the present time?

Mr. McPherson. From Fairbanks service is being provided over the Chatanika branch to the town of Chatanika, a distance of approximately 38 miles. Beginning from the south end, local trains are being operated from Seward clear through to Talkeetna and over the Matanuska branch. I don't know just what service they are providing for now—probably two locals a week besides their regular construction trains; or there may be only one local train.

At the north end an intermittent service is being supplied from Nenana south to approximately Mile 366, a distance of 48 miles.

Mr. Strong. Does that service bring in any revenue to speak of?

Mr. McPherson. It does.

Mr. Strong. At what rate? Now that is quite a proposition.

Mr. McPherson. I have a complete statement on the revenue for the last three years here.

Mr. Strong. As a matter of fact, the rate for transportation on the line operating up toward Matanuska is heavy, is it not?

Mr. McPherson. I wouldn't say it was. I haven't the rates here, but I will supply them.

The Chairman. Have you opened up those coal fields?

Mr. McPherson. Yes.

The Chairman. You are running to both coal fields?

Mr. McPherson. The road is completed through to the Matanuska coal field and from Nenana to the western end of the Nenana coal field, except for the finishing work as described in my report.

The CHAIRMAN. Of course, that won't do much good until the rest is completed.

Mr. MCPHERSON. It only supplies local needs.

Mr. JOHNSON. How many locators have taken lands in the Matanuska coal fields?

Mr. MCPHERSON. Approximately 250. I am now compiling an industrial map of the Matanuska region on the same basis on which this industrial map of the Fairbanks section is compiled.

Mr. JOHNSON. And you say there have been 250 locations, coal-mining locations?

Mr. MCPHERSON. No; I understood you to say homesteads.

Mr. JOHNSON. That is Matanuska homesteads?

Mr. MCPHERSON. Yes, sir.

Mr. JOHNSON. How many coal locators are there in the Matanuska field?

Mr. MCPHERSON. Only one that is being actively worked.

The CHAIRMAN. How much coal have you got out there?

Mr. MCPHERSON. Referring to page 44:

> The Alaskan Engineering Commission, to be assured of a fuel supply, has had to conduct its own coal mining. Its major operations have been at Eska, 2.7 miles north of the Matanuska Branch, at mile 18.5. Eska is in the west portion of the Matanuska field, where the coal has not been subjected to as intense folding as it has in the Chickaloon and East Section, with the result that the coal has not the high fuel value of the coal to the east, but has been found satisfactory for railroad purposes. The commission, in April, 1919, had a force of about 78 men employed at this mine. In 1918 this mine produced about 55,000 tons of coal. A surplus of about 25,000 tons has been accumulated in the Anchorage yard and a coal reserve has been blocked out sufficient to provide for the railroad requirements for a number of years.

The CHAIRMAN. Have you got in this report of yours a statement as to the lands sold and the freights collected and passenger fares collected?

Mr. MCPHERSON. No; but I will submit that to you.

The CHAIRMAN. The amount that has gone into the Treasury, so that we can find out how much the road has already brought in and how much has been brought in under the act from the sale of lands?

Mr. JOHNSON. I want to ask you one question. This report on coal is your report?

Mr. MCPHERSON. It is.

Mr. JOHNSON. Are you responsible for these words:

> The high-grade coal in this field is in a region of intense folding and faulting, and it is only by extensive prospecting that the areas of coal of commercial value can be determined. Under the present coal land lease act applicable to Alaska, no prospecting privilege is possible, and it is not reasonable to expect conservative mining capital to risk its money under the terms of the act in carrying on the preliminary prospecting essential to any successful and intelligent mining operations.

Mr. MCPHERSON. Those are my views.

Mr. JOHNSON. They are the views of the western people generally.

Mr. MCPHERSON. Yes, sir.

Mr. JOHNSON. Are they the present views of the Department of the Interior?

Mr. MCPHERSON. I can not speak for the Department of the Interior as to their views. Those are my views.

Mr. JOHNSON. The Department of the Interior, however, favored the leasing bill that is now a law, advocated its passage, in the belief that prospectors and others would flock there and go to operating, to working coal lands.

Mr. McPherson. I believe the Department of the Interior is on record relative to the Alaska coal situation in the hearings on the coal and oil bill that was before the last Congress.

Mr. Johnson. Now, then, in regard to this coal that is accumulated at Anchorage, 25,000 tons, is that a small amount or a large amount for the railroad and the people in that vicinity?

Mr. McPherson. I consider it is a safe amount to have on hand.

Mr. Johnson. Is that sold to the people of Anchorage?

Mr. McPherson. Not as I understand it.

Mr. Johnson. Where do they get their coal?

Mr. McPherson. Coal mining has been conducted on Moose Creek, tributary to the Matanuska Branch, and to which a spur has been built; and another small mine has been opened at Houston, from which there is some production.

Mr. Johnson. Now, before these hearings are closed—and I think there will be plenty of time—can you get figures as to the price of coal to citzens in Anchorage?

Mr. McPherson. Yes, sir.

Mr. Johnson. And the cost of transportation of that coal from the mines you have just named to Anchorage, and the cost of the transportation of coal from any mines to Seward and the retail price of coal to citizens in Seward. Do you think you can get such figures?

Mr. McPherson. I think so; yes, sir.

The Chairman. I think after this road is completed we have got to do something to open up Alaska for proper settlement and development.

Mr. Johnson. We have got 250 homesteaders on the Matanuska now.

Mr. Brooks. Is not the operation of this road seriously obstructed for a long time during the winter by snow and ice? In looking at these pictures it seems to me that for part of the year it could not be operated.

Mr. McPherson. In two regions they have had snowslides; one on the north slope of the Placer River summit at approximately Mile 54 from Seward; and the other region is on the north shore of Turnagain Arm, in Miles 72, Miles 77 to 79, and in Mile 82. We expect to have the necessary snowsheds constructed at the vital points this summer that will assure of an open line this coming winter.

The Chairman. Can you tell the committee where that portion of the road is located that was washed out? How much of it was washed out and what the loss was and what it cost to replace it; whether it has been replaced over the same portion where it was washed out, or whether you went farther back from the river?

Mr. McPherson. South from Nenana, mile 414 north of Seward, the road followed very closely to the east bank of the Nenana River. During the period of extremely high water, probably augmented by the bursting of a glacial lake in, I think, 1917—I wouldn't be certain as to date, because I was not there at the time—the river swept over onto its east bank and turned down an old slough which was crossed by the railroad. When the flood waters reached the railroad bridge, the flow of water naturally turned down the grade. You will see that pictured in this album [indicating], and followed the grade, as

I viewed it last fall, for a distance of about 2 miles, and then it broke back into the river. Below that point the river had washed out the grade for a short distance. Finding it impracticable to throw the water back from this slough and its east bank to the west bank of the Nenana River, they abandoned that line along the bank of the river and constructed a new line a distance of from 1 to 2 miles back from the river. The cost of the newly constructed line was approximately $560,000.

Mr. JOHNSON. Have you any figure in your report here as to the approximate cost of making a harbor at Anchorage?

Mr. MCPHERSON. Yes, sir; that is covered in Mr. Gerig's report.

Mr. JOHNSON. The making of a harbor was all considered part of the railroad construction program?

Mr. MCPHERSON. It was, as I understand it.

Mr. JOHNSON. Who was in charge of that work?

Mr. MCPHERSON. Col. Mears was in charge at Anchorage, succeeded by Mr. Gerig. The estimated cost of completing that harbor is approximately $100,000.

The CHAIRMAN. The reason this bill was introduced providing for $17,000,000 in addition to the $35,000,000 already authorized is that the Senate Committee on Appropriations thought Congress had the authority to appropriate a deficiency or deficiencies for the completion of this road, and the House bill was amended in the Senate by adding a deficiency appropriation of $12,000,000, to be supplemented later on by other appropriations, but the Committee on Appropriations of the House thought there was no authority in the law to make further appropriations unless further authorization was made.

Mr. JOHNSON. In other words, all that the law called for for the Alaska Railroad complete was $35,000,000.

The CHAIRMAN. Yes; and that no deficiency under the wording of the act was legal without further authorization by the committee.

It is now past 12 o'clock, and we will adjourn until 10.30 to-morrow morning.

(Whereupon, at 12.15 o'clock p. m., the committee adjourned until 10.30 o'clock a. m., Thursday, July 24, 1919.)

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COMMITTEE ON TERRITORIES,
HOUSE OF REPRESENTATIVES,
*Washington, D. C., Thursday, July 24, 1919.*

The committee assembled at 11 o'clock a. m., Hon. Charles F. Curry (chairman) presiding.

Present: Messrs. Curry (chairman), Johnson, Dowell, McFadden, Baer, Ramsey, Strong, Watkins, Lankford, and Davey, and Delegate Grigsby.

The CHAIRMAN. We will first call Mr. McPherson for the completion of his statement before the committee in reference to the bill under consideration for the authorization of a further sum of $17,000,000 for the completion of the Alaska Railroad.

## STATEMENT OF MR. J. L. McPHERSON, ENGINEER, ALASKAN ENGINEERING COMMISSION—Resumed.

Mr. McPherson. Shall I present the information which has been requested first?

The Chairman. I think you had better present the information requested and make your statement in your own way, and do not let anything interfere with the sequence of your remarks, so that you will not forget anything while you are presenting the information to the committee; and then after you have completed your statement the members may ask any questions they may wish to. In the meantime they may make memoranda of points upon which they wish information—unless it should be necessary to interrupt you with a question during your remarks.

Mr. McPherson. The first request was relative to the Alaska Railroad Record. The Alaska Railroad Record is the official publication of the Alaskan Engineering Commission, issued weekly. The editor is John F. Coffey; it is printed at Anchorage, Alaska. The subscription list includes official, 935; free public, 160; paid, 30; total, 1,125.

Mr. Watkins. How much are the receipts?

Mr. McPherson. The receipts are $30 per year. The cost of printing is $1,500; salaries, $1,450; total cost, $2,950. The editor receives a salary of $2,400 per year as manager of the Land and Industrial Department of the Commission; 50 per cent of his time is chargeable to editing the Record, or $1,200; stenographer's time chargeable to the Record, $250.

The Alaska Railroad Record is published in the interest of the Government railroad in Alaska, and contains weekly reports of the work, and gives, not only to the employees, but to the public at large, an idea of the progress and operation along the railroad.

Mr. Monahan. Do you publish any general news in the Record.

Mr. McPherson. I will distribute copies of the Record [passing copies among members of committee].

The Chairman. I want to note for the record at this point the fact that the Panama Canal Commission issues a paper, and always has one so while it was under the control of the Army Engineers. It is called the Panama Canal Record, and I presume each one of you gentlemen receive it. It was issued because it was thought that it would help the progress of the work by helping to keep the men satisfied, and also by giving general information to the public. I have a copy of it here.

I may add that nearly every department of the Government which has a large construction work issues or publishes what might be called a departmental newspaper.

Mr. Strong. Mr. Chairman, if the gentleman would state what it is claimed the benefits of this publication are, so as to show some reason for the expense incurred, it might be a good thing.

The Chairman Yes.

Mr. McPherson. In my judgment, the paper is invaluable, if it can reach all sections of the work. We have employees scattered over a distance of 471 miles. It brings them all in touch with the work in the other sections, and tends to efficiency and to a spirit of morale, which is always essential in the handling of large construction work; and I think you will find that it is customary with all large corporations handling work extending over any area, to issue publications of this kind, as they find it is of value to their force.

With reference to the printing in the "Record" of lists of employees of the Department of the Interior who have entered the military service, I will say that mimeographed lists were compiled in the Secretary's office and submitted to the various bureaus of the department, with the information that the Secretary directed to have the same published in full in the publications issued by the respective bureaus.

The Department of the Interior did not stand alone in the printing of such lists in its various publications, as the Panama Canal, for instance, made a practice during the war of printing lists of their men who had entered the military and naval service, in the Panama Canal Record.

The space given over to personal items in the Railroad Record is not a full page; and it is used to advise the employees as to the movements of some of the other men. It might be well to state that the Panama Canal officials published such personal items in the Panama Canal Record from the time it was first published until the canal was opened for travel. I understand now, however, that they have discontinued the printing of personal items.

Another question that was asked was relative to the passenger and freight rates on the Alaska Railroad.

The passenger rates per mile are 6 cents. Relative to freight and passenger rates, I can best answer by reading from Secretary Lane's personal memorandum on the subject. This was a personal memorandum prepared by Secretary Lane last winter, or late last fall:

> It is difficult to know what rates should be charged on such a railroad as this, which is as yet in the process of building, which originates so little traffic as to be negligible, and will not in all likelihood for some years pay operating and maintenance charges, without any return on investment. Plainly, the traffic can not be made to bear charges that would be reasonable from the standpoint of making the railroad pay its own way. To do this would be to retard the growth of Alaska, and of the railroad itself.
>
> The freight rates on the Alaska Railroad are from 25 to 50 per cent of the rates charged by other Alaska roads. The Copper River and the Skagway roads charge from twice as much to four times as much as does the Government road. If, therefore, there is anything in the test so often applied by the Interstate Commerce Commission in judging of the reasonableness of a rate by the rates charged on similar traffic on neighboring roads, the rates on the Alaska road certainly meet that test.
>
> Here are a few comparisons in cents per 100 pounds, on less-than-carload lots for a 60-mile haul on the Alaska Railroad and the Copper River Railroad:

| | Alaska Railroad. | Copper River Railroad. |
|---|---|---|
| Household goods, second hand | 32 | 160 |
| Canned goods | 49 | 109 |
| Flour | 49 | 109 |
| Eggs | 69 | 216 |
| Fruit, dried | 49 | 134 |

Mr. STRONG. The rate on eggs is per case, I suppose?

Mr. MCPHERSON. No; per 100 pounds.

The rates now in force on the Alaska road are approximately the same as those which the Railroad Commission of the State of Washington approves on the Seattle, Port Angeles & Western Railroad between Maynard and Majestic, a distance of 60 miles, as the following comparison furnished by the Interstate Commerce Commission shows—

Do you wish me to read all of those comparisons?

The **Chairman**. Do you wish the comparisons read, Mr. Strong?

Mr. **Strong**. If there are a good many of them, you can simply insert them in the record.

Mr. **McPherson**. There are quite a number of them.

The **Chairman**. You might read some of them.

Mr. **McPerhson** (reading):

> The rates now in force on the Alaska road are approximately the same as those which the Railroad Commission of the State of Washington approves on the Seattle, Port Angeles & Western Railroad between Maynard and Majestic, a distance of 60 miles, as the following comparison furnished by the Interstate Commerce Commission shows:

| Commodities. | Government railroad, per ton. | Seattle, Port Angeles & Western R. R. per ton. |
|---|---|---|
| Household goods | $6.40 | $13.80 |
| Canned goods | 9.80 | 9.30 |
| Flour | 9.80 | 9.30 |
| Eggs | 13.80 | 11.50 |
| Dried fruit | 9.80 | 10.50 |
| Fresh fruit | 16.20 | 13.80 |
| Meat, cured | 9.80 | 9.30 |
| Kerosene | 11.40 | 10.50 |
| Sugar | 9.80 | 9.30 |
| Vegetables | 16.20 | 20.70 |
| Butter | 13.80 | 11.50 |
| Hardware | 13.80 | 11.50 |

Secretary Lane says, in closing:

> It would hardly be regarded as unfair to say that on the Alaskan road the rates should be twice as high as on the main line of the Northern Pacific in Washington, considering the fact that the Northern Pacific has several hundred thousand times the density of traffic per mile that the Alaskan Railroad has. Yet a comparison of the two rates shows that the rates on the Alaskan road are not that high by from 25 to 50 per cent. They are, indeed, but a small percentage higher than many of the rates on the Southern Railway running immediately out of this city, which carries in any one hour more traffic than the Alaskan road carries in a year. I am satisfied, however, that the rates in existence on the Alaskan road are not those which will best promote the interest of the Territory and in the end that of the road. And last summer I asked Mr. E. O. McCormick, vice president of the Southern Pacific in charge of traffic, to make a study of the actual conditions in Alaska with the purpose of devising a simpler tariff which would induce whatever traffic could be induced to move over that road and still preserve some justifiable relation between commodities. This is not an easy task. And there must be some experiments tried before anything like a stable schedule can be arrived at.

A reduction in the present tariff rates was prepared to be issued this spring, but it has not yet received the approval of Secretary Lane, as he believes that still further reductions should be made.

The **Chairman**. Will you file a copy of that new schedule for the record?

Mr. **McPherson**. I will get a copy of the new schedule and file it with the committee.

The CHAIRMAN. And it will be inserted in the record with a statement that the reason it has not been adopted is that Secretary Lane thinks still further reductions should be made.

Mr. McPHERSON. Yes, sir.

(The schedule referred to is as follows:)

### ALASKAN ENGINEERING COMMISSION LOCAL FREIGHT TARIFF NO. 22, NAMING COMMODITY DISTANCE RATES ON LINES OF ALASKAN ENGINEERING COMMISSION IN ALASKA, EFFECTIVE APRIL 15, 1919.

[I. C. C. No. 28.]

*Stations and distances.*

[All stations in Alaska.]

| Station. | Distance from Seward. | Distance from Anchorage. | Station. | Distance from Seward. | Distance from Anchorage. |
|---|---|---|---|---|---|
| ALPHABETICAL LIST. | *Miles.* | *Miles.* | GEOGRAPHICAL LIST. | *Miles.* | *Miles.* |
| Anchorage | 114.4 | .......... | Seward | .......... | 114.4 |
| Birchwood | 136.1 | 21.7 | Woodrow | 6.9 | 107.5 |
| Bird | 81.7 | 32.7 | Summit | 12.0 | 102.4 |
| Campbell | 109.3 | 5.1 | Primrose | 18.3 | 96.1 |
| Castle | 180.5 | 66.1 | Lakeview | 20.2 | 94.2 |
| Caswell | 202.3 | 87.9 | Roosevelt | 23.2 | 91.2 |
| Chickaloon | 188.4 | 74.0 | Falls | 24.6 | 89.8 |
| Eklutna | 141.9 | 27.5 | Trail | 25.5 | 88.9 |
| Eska | 172.3 | 57.9 | Moose Pass | 29.4 | 85.0 |
| Falls | 24.6 | 89.8 | Johnson | 33.8 | 80.6 |
| Girdwood | 74.9 | 39.5 | Hunter | 40.1 | 74.3 |
| Grandview | 44.5 | 69.9 | Grandview | 44.5 | 69.9 |
| Granite | 173.1 | 58.7 | Tunnel | 51.2 | 63.2 |
| Houston | 174.9 | 60.5 | Spencer | 54.0 | 60.4 |
| Hunter | 40.1 | 74.3 | Portage | 64.0 | 50.4 |
| Indian | 88.8 | 25.6 | Kern | 70.8 | 43.6 |
| Johnson | 33.8 | 80.6 | Girdwood | 74.9 | 39.5 |
| Kashwitna | 193.9 | 79.5 | Bird | 81.7 | 32.7 |
| Kern | 70.8 | 43.6 | Indian | 88.8 | 25.6 |
| Kuney | 126.6 | 12.2 | Rainbow | 93.5 | 20.9 |
| Lakeview | 20.2 | 94.2 | Potter | 100.6 | 13.8 |
| Matanuska | 150.7 | 36.3 | Campbell | 109.3 | 5.1 |
| Montana | 209.3 | 94.9 | Anchorage | 114.4 | .......... |
| Moose Creek | 163.7 | 49.3 | Whitney | 119.1 | 4.7 |
| Moose Pass | 29.4 | 85.0 | Kuney | 126.6 | 12.2 |
| Nancy | 181.3 | 66.9 | Birchwood | 136.1 | 21.7 |
| Palmer | 157.3 | 42.9 | Eklutna | 141.9 | 27.5 |
| Pittman | 166.5 | 52.1 | Matanuska | 150.7 | 36.3 |
| Portage | 64.0 | 50.4 | Palmer | 157.3 | 42.9 |
| Potter | 100.6 | 13.8 | Moose Creek | 163.7 | 49.3 |
| Primrose | 18.3 | 96.1 | Sutton | 169.6 | 55.2 |
| Rainbow | 93.5 | 20.9 | Eska | 172.3 | 57.9 |
| Roosevelt | 23.2 | 91.2 | Granite | 173.1 | 58.7 |
| Seward | .......... | 114.4 | Castle | 180.5 | 66.1 |
| Spencer | 54.0 | 60.4 | Chickaloon | 188.4 | 74.0 |
| Summit | 12.0 | 102.4 | Wasilla | 159.9 | 45.5 |
| Sutton | 169.6 | 55.2 | Pittman | 166.5 | 52.1 |
| Talkeetna | 227.2 | 112.8 | Houston | 174.9 | 60.5 |
| Trail | 25.5 | 88.9 | Nancy | 181.3 | 66.9 |
| Tunnel | 51.2 | 63.2 | Willow | 185.6 | 71.2 |
| Wasilla | 159.9 | 45.5 | Kashwitna | 193.9 | 79.5 |
| Whitney | 119.1 | 4.7 | Caswell | 202.3 | 87.9 |
| Willow | 185.6 | 71.2 | Montana | 209.3 | 94.9 |
| Woodrow | 6.9 | 107.5 | Talkeetna | 227.2 | 112.8 |

**Cancellations:** Cancels I. C. C. Nos. 1, 2, 7, 12, 14, 18, 19, 23, 26, and 27 in full.

*Distance rates.*

| | Less than carload rates in cents per 100 pounds. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Distances in miles | 20 | 40 | 60 | 80 | 100 | 120 | 140 | 160 | 180 | 200 | 220 | 240 |
| COMMODITY. | | | | | | | | | | | | |
| Agricultural implements, horse and dog sleds, and mining machinery and equipment | 19 | 29 | 37 | 44 | 51 | 58 | 65 | 72 | 79 | 86 | 93 | 100 |
| Hay, straw, grain, and feed | 8 | 11 | 14 | 16 | 18 | 20 | 22 | 23 | 24 | 25 | 26 | 27 |
| Household goods and emigrant movables | 10 | 15 | 20 | 24 | 28 | 32 | 35 | 38 | 40 | 42 | 44 | 46 |
| Live stock, viz, horses, mules, cattle, calves, hogs, sheep, goats, and dogs in teams for work | 9 | 13 | 16 | 19 | 22 | 25 | 28 | 31 | 34 | 37 | 40 | 43 |
| Lumber | 5 | 9 | 11 | 13 | 15 | 17 | 19 | 21 | 23 | 25 | 27 | 29 |
| Potatoes, beets, cabbage, carrots, onions, parsnips, rutabagas, etc., without tops | 8 | 11 | 14 | 16 | 18 | 20 | 22 | 23 | 24 | 25 | 26 | 27 |
| All other commodities | 20 | 31 | 40 | 48 | 56 | 63 | 70 | 77 | 84 | 91 | 98 | 105 |

Minimum charge for any shipment, 25 cents.
Carload rates will be 60 per cent of the less than carload rates.
When in carloads, minimum weights as follows will apply:

| | Pounds. |
|---|---|
| Agricultural implements, etc | 24,000 |
| Household goods, etc | 20,000 |
| Lumber | 30,000 |
| Potatoes, etc | 30,000 |

### RULES AND REGULATIONS.

Rates in this tariff are subject to rules and regulations and charges therefor covering demurrage, switching, and other terminal services, storage, weighing, diversion, reconsignments, and transit services, and to absorption and allowances, together with all other charges and rules which in any way increase or decrease the amount to be paid on any shipment, or the value of the service to the shipper, as per tariffs of this commission lawfully on file with the Interstate Commerce Commission.

*Minimum weight.*—Carload shipments are subject to carload minimum weights, stated in individual items. When the minimum is not stated, charges will be assessed at a minimum weight of 20,000 pounds.

Rates herein, when applied to the transportation of explosives, are applicable in connection and in compliance with the regulations governing the transportation of explosives fixed by the Interstate Commerce Commission.

Distance rates shown herein may be used only when no specific commodity rates have been provided. They may not be used, either by themselves or in combination, in preference to any specific commodity rate.

Mr. McPherson. Another question raised yesterday was as to the expenditures on town sites and the returns from the sale of town lots. The following is a statement from Commissioner Tallman, of the General Land Office, on that subject:

In response to your inquiry this afternoon, the following is a statement of the receipts from sales of lots in Government town sites in Alaska under the act of March 12, 1914 (38 Stat., 305), to May 31, 1919, as shown by the records of the Accounts Division:

| | |
|---|---|
| Nenana (Fairbanks district) | $74,665.44 |
| Anchorage (Juneau district) | 145,211.97 |
| Matanuska (Juneau district) | 3,961.18 |
| Seward (Juneau district) | 27,205.00 |
| Wasilla (Juneau district) | 4,125.50 |
| Total | 255,169.09 |

The above includes only cash payments actually received, as I understood that is what you want. Most of the lots have been sold on time payments, which are not yet completed. We can give you a memorandum of the aggregate deferred payments, but it will require a little time to check them up. By reason of war conditions, under Executive order the time for payment of deferred payments was extended for one year.

The expenditures on town sites are as follows: Seward—Cost of Seward townsite improvements, $5,532.58.

The CHAIRMAN. What are those improvements

Mr. McPHERSON. Clearing , grubbing, and surfacing of roadways. There has accrued to the commission from the 50 per cent of proceeds of sales of town lots, which Congress granted to the commission for one year, $7,723.50; so that there is a balance available for Seward improvements yet to be made of $2,190.92. The total receipts from the lot sales at Seward have been $27,205.

Mr. McFADDEN. Are those receipts put back into the improvements?

Mr. McPHERSON. No; those go to the General Land Office, with the exception of this one year, when Congress granted a return to the commission of 50 per cent. The cost to the commission of the improvements has been refunded to the commission by assessments against lots.

Mr. McFADDEN. So that all of the receipts from the sale of town lots come back to the General Land Office?

Mr. McPHERSON. All go back to the General Land Office, with the exception of that one year.

Mr. McDOWELL. Is there any expense connected with the sale of lots?

Mr. McPHERSON. None, other than clerical. These improvements are for clearing, surfacing, and at Anchorage, which I will come to in a moment, sewers, water mains——

Mr. DOWELL (interposing). I understand; but is there any expense connected with the sale of lots?

Mr. McPHERSON. None other than clerical.

Mr. DOWELL. Is there any percentage paid on the amount received?

Mr. McPHERSON. No, sir; it is all handled by Government men; they are sold at auction.

Mr. DOWELL. Are those men specially designated for this work, and is there any expense connected with that?

Mr. McPHERSON. That has been handled by the land and industrial department of the commission, which now has also the editing of the Railroad Record, at Anchorage.

Mr. DOWELL. Well, they are using a certain proportion of their time in the disposition of those town lots; what I am trying to get at is, what is the estimated cost of the sales?

Mr. McPHERSON. I could not say; but I should say it was negligible; simply the expense of those men in auctioning them off.

Mr. McFADDEN. They use the time that is not spent on something else?

Mr. McPHERSON. The duty of the employees in the land and industrial department covers all of the land and industrials affairs of the entire road.

The CHAIRMAN. How many lots have been sold, do you know?

Mr. McPHERSON. No, sir. I can give you the proceeds from the sales. The total receipts from lot sales at Seward were $27,205. There has been refunded to the commission, as the 50 per cent of receipts for the one year, $7,723.50; balance to the credit of the general fund at Seward, $19,481.50.

*Town site statement, Seward, to Mar. 31, 1919.*

| | |
|---|---|
| Cost of Seward town site, improvements | $5,532.58 |
| Balance available for Seward improvements | 2,190.92 |
| | 7,723.50 |
| Amount accrued from 50 per cent of lot sales | 7,723.50 |
| Total receipts from lot sales at Seward by General Land Office | 27,205.00 |
| A. E. C. proportion | 7,723.50 |
| Balance to credit general fund | 19,481.50 |
| Deferred payments collectible, 1920 | 140.00 |

The CHAIRMAN. What is the population of Seward?

Mr. MCPHERSON. I can only approximate it at this time. It is probably 700.

Mr. LANKFORD. What are the sizes of the lots?

Mr. MCPHERSON. I could not say as to that. I should approximate them as 60 by 120 feet.

Mr. MONAHAN. What is the material used in the building of the houses there?

Mr. MCPHERSON. In Seward they use wood, and also concrete, in the business section.

Mr. LANKFORD. Do you know what they charge per lot?

Mr. MCPHERSON. The lots were auctioned off.

Total number of lots sold at Anchorage was aproximately 1,075.

| | |
|---|---|
| Average price per lot, approximately | $193 |
| Total amount of such sales | 208,065 |
| Payments received to date | 145,211 |
| Deferred payments, approximately | 62,854 |

Total number of lots sold at Nenana, 430.

| | |
|---|---|
| Average price per lot, approximately | 320 |
| Total amount of sales | 137,790 |
| Payments received to date | 74,665 |
| Deferred payments, approximately | 63,125 |

Total number of lots sold at Matanuska, 59.

| | |
|---|---|
| Average price per lot | 158 |
| Total amount of sales | 9,355 |
| Payments received to date | 3,961 |
| Deferred payments, approximately | 5,394 |

Total number of lots sold, Seward, 150.
Average price per lot, $182.

| | |
|---|---|
| Total amount of sales | $27,345 |
| Payments received to date | 27,205 |
| Deferred payments | 140 |

Total number of lots sold, Wasilla, 53.
Average price per lot, $105.

| | |
|---|---|
| Total amount of sales | $5,565 |
| Payments received to date | 4,125 |
| Deferred payments | 1,440 |

Mr. LANKFORD. Do you know what profit each lot yielded?

Mr. MCPHERSON. Per lot?

Mr. LANKFORD. Yes.

Mr. McPherson. No; but that could be worked out from these figures. At Anchorage, there was expended for improvements $168,137.36.

Mr. Monahan. What did those improvements consist of?

Mr. McPherson. Clearing, grubbing, street-paving, sewerage, light, water, etc. The accrued assessments and rents that have been returned of this amount are $104,587.17; so that the net investment of the Alaskan Engineering Commission in improvements is $63,550.19.

The Chairman. What do you mean by rents?

Mr. McPherson. The rent of the post office and the rent of the jail. I am just coming to those items. The next item is the cost of the post office, which was $7,559.45, of which there has been returned to the commission, in rent from the Post Office Department, the sum of $2,000, leaving a net investment of $5,559.45. These figures are all as of March 31, 1919, the date of my report.

The cost of the jail was $5,906.94; it was rented to the Department of Justice, on the understanding that when the rent paid totaled the cost of the investment the structure was to be turned over to the Department of Justice. The total receipts from rent of the jail are $5,000, so that there is remaining only $906.94 of that cost.

The cost of the schoolhouse was $46,917.77. So that the total investment at Anchorage was $228,521.52, of which there has been returned $111,587.17 in accrued assessments and rents. The 50 per cent of proceeds of sales of lots in the year in which Congress granted the allocation amounted to $64,760.40; and the net investment of the Alaskan Engineering Commission in the townsite of Anchorage as of date March 31, 1919, was $70,016.58.

*Townsite statement, Anchorage, to Mar. 31, 1919.*

| Item. | Amount. | Accrued assessments and rents. | Net investment of Alaskan Engineering Commission. | 50 per cent of proceeds sales of lots accrued. |
|---|---|---|---|---|
| Cost of townsite | $168,137.36 | $104,587.17 | $63,550.19 | |
| Improvements | 7,559.45 | 2,000.00 | 5,559.45 | |
| Cost of post office | 5,906.94 | 5,000.00 | 906.94 | |
| Cost of schoolhouse | 46,917.77 | | | |
| Total | 228,521.52 | 111,587.17 | 70,016.58 | $64,760.40 |
| Amount of townsite investment chargeable to $35,000,000 appropriation | | | | 5,256.18 |
| Total | | | | 70,016.58 |

| | |
|---|---|
| Gross receipts General Land Office to date from sale Anchorage town lots | $145,211.97 |
| Alaskan Engineering Commission proportion | 64,760.40 |
| Balance credit to general fund | 80,451.57 |
| Deduct amount charged to Alaskan Engineering Commission appropriation | 5,256.18 |
| Net profit of United States from Anchorage townsite | 75,195.39 |
| Deferred payments collectible, 1920 | 62,854.00 |
| Total | 138,049.39 |

Mr. Lankford. Is the Government really endeavoring to make a profit out of those lots?

Mr. McPherson. No, sir.

Mr. Lankford. Or is it endeavoring to build up the population?

Mr. McPherson. It is endeavoring to build up the communities, and to make desirable residence places for their employees. The work is conducted with a view to the return to the Alaskan Engineering Commission of the funds expended. Only such improvements have been made as are essential.

Mr. McFadden. Are those places occupied only by Government employees?

Mr. McPherson. No; the town of Anchorage has a population of anywhere from 3,000 to 4,000; and the majority of residents at Anchorage come from all sections of Alaska.

Mr. McFadden. In what pursuits are they principally engaged?

Mr. McPherson. All classes of mercantile pursuits.

Mr. Strong. What do you say the population of Anchorage is?

Mr. McPherson. Between 3,000 and 4,000, I should say, at this time.

Mr. Lankford. Which has the best harbor facilities, Anchorage or Seward?

Mr. McPherson. Seward has the best harbor facilities, in that there is no ice trouble throughout the 12 months. There is a slight trouble caused by floating ice at Anchorage from the middle of November to the first part of April. But that trouble, it is claimed by the engineer in charge, who has made a study of it and is now in charge of the construction of the dock, will be obviated by the construction of a dock at which vessels can land. Their trouble was in lightering into scows and boats while at anchor, due to the accumulation of ice against the vessels.

Mr. McFadden. Are there any private land companies operating there in disposing of those town sites?

Mr. McPherson. No.

Mr. McFadden. They are not permitted there?

Mr. McPherson. They are not permitted.

Mr. McFadden. So that this land is taken from the Government, really?

Mr. McPherson. Yes, sir.

Mr. McFadden. It is improved and sold by the Government?

Mr. McPherson. Yes, sir.

Mr. Lankford. Do you know the cost of these lands as compared with other lots of similar size in Alaska?

Mr. McPherson. No.

Mr. Lankford. Do they get them more cheaply?

Mr. McPherson. The first cost has been a great deal cheaper, as they have been auctioned off, but the value of lots in all Alaska towns, as in all frontier towns, is so variable that you can not fix any reliable basis of comparison.

Mr. McFadden. Is there a demand for more houses there all the time? Is the population increasing?

Mr. McPherson. The population is increasing. The population at Anchorage has fluctuated to a certain extent with the activities of the railroad. In the year 1916, when they pushed construction more than in any other year, the population of Anchorage increased to between 5,000 and 6,000.

Mr. Monahan. Mr. McPherson, in general terms tell us what the prospects for agriculture are along the line of the road.

Mr. McPherson. From about 10 miles south of Anchorage [indicating on map on wall] to within about 10 miles of Talkeetna, you can see from this map [indicating] that a certain area paralleling the railroad has been sectionalized by the Government.

Mr. McFadden. For what distance?

Mr. McPherson. Probably 120 miles. In the area, confined to a distance of about 65 miles, north of Anchorage, there are to-day located approximately 250 homesteads. A number of those views on the wall on the left [indicating] are illustrative of their pioneer efforts and are similar to that witnessed throughout the West in the opening up of new sections of country. Those larger pictures on the wall [indicating] were taken in the Fairbanks region where agriculture was first demonstrated to be a practicable industry in Alaska.

Mr. Dowell. How long a season do they have there for crops?

Mr. McPherson. In the Fairbanks region?

Mr. Dowell. Yes.

Mr. McPherson. We have a growing season of approximately 100 days. Prof. C. C. Georgeson, who has been at the head of the experimental work for the Department of Agriculture since 1908, has succeeded in acclimating all of the hardy grains in Alaska, and as a result of his work, last year in the Tanana Valley they raised 30 tons of wheat, and the first small test flour mill was shipped into Fairbanks last fall. Two years ago they succeeded in acclimating alfalfa at the Rampart station, which is within 60 miles of the Arctic Circle.

Mr. McFadden. Was that a spring or a winter wheat to which you referred?

Mr. McPherson. A spring wheat. There is not sufficient snowfall in the Tanana Valley to protect the winter wheat; the snowfall there is very little; probably it would not average more than 12 inches, if that much.

Mr. Monahan. How far from the sea is the town of Anchorage?

Mr. McPherson. Anchorage is on Knik Arm of Cook Inlet.

Mr. Monahan. Then, going north, how far is it from the mountains?

Mr. McPherson. The route of the railroad follows the valley of the Matanuska and the Susitna, crossing the Susitna at Mile 265; from there the line climbs to the summit of Broad Pass, which has an elevation of about 2,400 feet above sea level. It is a very low divide. Dropping down the Nenana River, the tillable land is not reached until you get to Mile 375.

Mr. McFadden. What is the high point of the railroad?

Mr. McPherson. About 2,400 feet.

Mr. Monahan. Perhaps I did not make myself clear just now. What I want to know is, how far it is east of that to the mountains.

Mr. McPherson. East of Anchorage?

Mr. Monahan. Yes.

Mr. McPherson. A distance of approximately 6 miles.

Mr. Monahan. Is that about half of the width of the valley itself, that you are running up through?

Mr. McPherson. No; in the Susitna Valley, at Willow Creek, you have a total width of 50 or 60 miles.

Mr. McFadden. How are those homestead plots disposed of by the Government? What are the terms?

Mr. McPherson. Those are based on the rules of the General Land Office.

Mr. McFadden. The homesteads are 160 acres each?

Mr. McPherson. One hundred and sixty acres.

Mr. McFadden. What are the requirements?

Mr. McPherson. The same requirements as in the United States; but recently the Commissioner has ruled that a strict requirement of the regulations as to residence, etc., will not be required in Alaska, in cases where good faith is shown.

Mr. McFadden. Do those people who take up the homesteads continue to live on them?

Mr. McPherson. Yes, sir; if they do not they forfeit their rights.

Mr. McFadden. What is the history of that? Are they a floating population?

Mr. McPherson. No; the history of it is that in the Fairbanks region, which is the oldest settled country, there are approximately 94 homesteaders, with cultivated fields of anywhere from 10 to 30 acres, and they are being added to each year. The value of agriculture to Alaska, as I have always viewed it, is an assurance of a future stable population. The agricultural development can not proceed ahead of the local market requirements, although I can foresee a day when not only a great deal of our food supplies, including meat supplies, will come from Alaska—as is evidenced by the growth of the reindeer industry. To-day, reindeer are exported.

Mr. McFadden. Is it suitable for cattle in that valley?

Mr. McPherson. It is suitable to the cattle that are acclimated to northern regions; and Prof. Georgeson is now working on that problem. The reindeer now in Alaska total over 140,000 head. That industry was only initiated in 1892, by the importation of 171 head from Siberia. In the following 10 years, we had increased the importations up to 1,280 head, out of which have grown herds that to-day number 140,000; and there have been over 90,000 killed for food in the same length of time.

Mr. Strong. What kind of meat does the reindeer make?

Mr. McPherson. The reindeer is very similar to venison; if anything, it is sweeter. They have a market for all that they can ship, in Minnesota.

Mr. Strong. What is the price, as compared with beef?

Mr. McPherson. It is probably a little higher in the Minnesota market.

I see as great possibilities, or perhaps, greater, in the introduction of musk ox into Alaska, as musk ox produces a meat comparable to beef; and each animal will produce 600 pounds, of meat, as well as twice the quantity of wool produced from the average sheep.

Mr. Strong. How much meat will the average reindeer produce?

Mr. McPherson. From 125 to 150 pounds is the average.

Mr. Strong. Do they require much care and feeding?

Mr. McPherson. They require no care, except to keep them herded; they feed on the grasses in the summer, and on the reindeer moss in the winter.

Mr. Dowell. Have you taken into consideration the expense of shipment of the amount that can be brought to the United States—and that that meat will be valuable in the way of increasing our food supply?

Mr. McPherson. There is no question about it. They now have a market for all they can ship in Minnesota.

Mr. McFadden. Well, they are shipping other meats all the time into Alaska, are they not?

Mr. McPherson. Yes.

Mr. McFadden. They are not confined to that reindeer meat up there?

Mr. McPherson. No; they are shipping in meat all the time, but the shipment of meats and agricultural products is decreasing all the time. In fact, for the last five years we have been getting importations into this country of vegetables from southeastern Alaska.

Mr. McFadden. You speak of a large amount of those reindeer going into Minnesota. What causes that? Is there a special demand there for reindeer meat?

Mr. McPherson. There is a special demand there from people accustomed to reindeer meat. Reindeer tongues and other parts are considered great delicacies in the Scandinavian countries.

Mr. Monahan. In the raising of reindeer herds and musk-ox herds are there wolves or other destroying agencies there?

Mr. McPherson. Yes; that is the necessity for keeping them herded, and they are herded by the natives. The musk ox protect themselves against the wolves by forming themselves in a circle with their heads out.

Mr. McFadden. How is this industry controlled in Alaska? Do each of the settlers have so many reindeer?

Mr. McPherson. The reindeer were introduced by the Government originally, under an apprentice system. The Government obtained the original herders from Lapland to teach the natives how to care for the reindeer, and under the system of apprenticeship each apprentice was granted at the end of the first year 6 reindeer, the second year 8 reindeer, the third year 10, and the fourth year 10. At that time, when he had demonstrated his ability as a herder he was given that number as a nucleus, and he in turn had to take on an apprentice each year. This system has resulted in the natives holding about 69 per cent of the reindeer. About 23 per cent were in the ownership of the original Lapland herders, and it is from those herders that the white settlers have been getting their herds and starting in a commercial way.

The Chairman. It was only recently that the white men were permitted to get any?

Mr. McPherson. Yes; they were only permitted to get them from the Lapland herders.

Mr. Dowell. That is under the control of the Territory, is it not?

Mr. McPherson. No; the industry is under the control of the Bureau of Education of the Department of the Interior.

Mr. Dowell. But the Territory has passed certain legislation relative to the control of those herds, has it not?

Mr. McPherson. Not that I know of. I think it is controlled entirely through the Bureau of Education.

The Chairman. It is entirely under the United States Government, as I understand it.

Mr. McPherson. The primary purpose of the introduction of reindeer into Alaska was to save the Eskimo of western and northern Alaska from starvation; it has resulted in placing them in a condition of affluence.

The CHAIRMAN. Alaska is one-fifth the size of the United States, and there is a great portion of it in which reindeer can be raised to commercial advantage, but along the southern frontage of Alaska and in the Aleutian Islands and the Alaska Peninsula they import a great many beef cattle, do they not?

Mr. MCPHERSON. That is true, but the number of domestic cattle is increasing each year. I simply cite the reindeer industry as it shows what can be done in stock-raising pursuits in Alaska.

Mr. DOWELL. What can the cattle live on up there?

Mr. MCPHERSON. The grass. The native grass grows to a height of from four to six feet. I have ridden through fields of native grass that were five or six feet high. For the winter season you would have to silo enough to stock you until spring, as they do in northern countries like Scandinavia. It might interest you to know that in 1918 the second industry in Finland was stock raising; and the conditions are more severe in Finland than they are in southern Alaska and very similar to those in central portions of Alaska. To enable you to appreciate conditions in Alaska, I will say that they have a range of temperature varying from an average of plus 30 degrees for the winter month of January, on the south coast of Alaska, which is the same average temperature that you have here in Washington——

Mr. MONAHAN (interposing). Thirty degrees above zero?

Mr. MCPHERSON. Yes; 30 degrees above zero, 2 degrees below freezing, is the average temperature on the south coast of Alaska. In the interior the average temperature at Fairbanks is probably about 5 or 10 degrees below zero. You have greater extremes of temperature in Washington in the month of January than they do on the south coast of Alaska. The isothermal line starting at Cape Prince of Wales Islands comes down through northern Minnesota and North Dakota; on this line the conditions are reversed in that you have more equable conditions in Minnesota and North Dakota.

Mr. MCFADDEN. January is the coldest month in Alaska, is it?

Mr. MCPHERSON. January is the coldest month.

The CHAIRMAN. What is the population of Fairbanks? You have given the population of Seward.

Mr. MCPHERSON. The population of Fairbanks when I was through there last September was approximately 1,200.

Mr. MCFADDEN. What were those people engaged in?

Mr. MCPHERSON. Mining, mercantile, and various other pursuits. The Fairbanks district, or this little area tributary to Fairbanks [indicating on map] has produced in mineral products since 1903 a total of $71,257,828.

The CHAIRMAN. That is nearly all gold, is it not?

Mr. MCPHERSON. That is practically all gold, as it is only practicable to mine gold under the costly methods obtaining in Fairbanks; and that was the primary purpose of this railroad, to permit a cheaper means of transportation for that vast interior.

Mr. MCFADDEN. What is the average temperature of that district?

Mr. MCPHERSON. The winter temperature is slightly colder than northern Minnesota and North Dakota. The average temperature in the Fairbanks district in the winter is from 5 to 10 degrees below zero, with extremes perhaps running to 60° or 65° below zero.

Mr. MCFADDEN. Is the mining conducted by big companies there now?

Mr. McPherson. No; by small companies. Fairbanks is unique about that. They started a quartz development probably six or eight years ago, and they have produced from lode operations $1,181,712. There are 18 small stamp mills, ranging in capacity from 10 stamps to that of an arrastre, and all of that industry has been financed by the Fairbanks people.

Mr. Strong. What is an "arrastre"?

Mr. McPherson. That is an old type of machine for grinding the gold out of the quartz by a revolving weight. To give you an idea of the difficulties under which that quartz mining has proceeded, they have averaged for their labor from $8 to $10 a day, and pay $15 to $20 a cord for wood for their fuel.

Mr. McFadden. They have no coal there?

Mr. McPherson. No; and they will not until we can give them access to the lignite fields. And the moment the building of this road was assured every owner of a quartz mine who could afford it quit operating, as they were simply wasting the values that they had in the ground. The largest quartz mine shut down in 1916. I asked the owners the reason, and they replied, "Last year we paid out over $20,000 for wood, and that is simply dissipating what values we have; we will simply have to wait for more economical conditions."

Mr. Dowell. If the coal can be shipped in, what effect will that have on the mining industry?

Mr. McPherson. That will cut the cost so as to revive the mining industry, not only around Fairbanks, but also in all other sections of Alaska tributary to the railroad.

Mr. Dowell. Approximately how many people are engaged in the mining industry around Fairbanks?

Mr. McPherson. In Fairbanks and the tributary section I should say there are over 3,000.

Mr. McFadden. At what rates do you expect to deliver coal in there when the road is completed?

Mr. McPherson. From the opinion expressed by Secretary Lane in his review of the late revision of freight rates, I should say at the lowest possible rate at which it can be delivered.

Mr. McFadden. Would you care to approximate what you think the rates should be?

Mr. McPherson. No; but I believe Secretary Lane has covered that very fully in his statement.

Mr. Strong. Well, can you not give any estimate of what the cost is likely to be up there?

Mr. McPherson. The present rate at the south end is 1½ cents per ton per mile. That would be about $1.50 per ton.

Mr. Strong. What would the coal cost?

Mr. McPherson. The mining of coal in that interior region should not cost over $3 or $4 a ton, with all charges.

Mr. Strong. Do you mean that it will be delivered up in that district for $5 or $6 a ton?

Mr. McPherson. Yes; and good coal, too.

Mr. Strong. What quality of coal is it?

Mr. McPherson. Lignite.

Mr. Strong. Is it found in large quantities?

Mr. McPherson. It is, as illustrated in that picture on the screen [indicating]. In the Nenana field there has been exposed by nature a total thickness of 212 feet of coal, and the estimates by the Geological Survey of the coal now in sight as exposed by nature exceed 9,000,000,000 tons.

Mr. Strong. What are the reports on the mining fields as to their extensiveness?

Mr. McPherson. This data is embraced in my report, pages 42 to 44, inclusive.

Mr. Strong. I do not want an exact statement, but only an approximation.

Mr. McPherson. The estimates of the gold remaining in the low-grade gravels in the Fairbanks district range from $50,000,000 to $200,000,000; that is in the district tributary to Fairbanks, on the creeks on which they have been mining. As to what further extent these deposits have, I do not know.

Mr. Strong. Then the gold-mining district is still undeveloped?

Mr. McPherson. We have been simply skimming the richer values in that district.

Mr. Strong. And this railroad is for the purpose of bringing the coal up to the mining district and bringing the product back?

Mr. McPherson. This road will furnish an economical means that will make possible the development of all of the mining resources, which is now impossible under the present conditions.

Mr. Strong. There is plenty of gold, and a large mining district at the surface?

Mr. McPherson. There is no question about that. Those who know Alaska best realize how little they know of its great resources.

Mr. Strong. I do not know anything about it.

Mr. McPherson. To-day we only know about 40 per cent of Alaska geologically.

The Chairman. In the hearings on the original bill authorizing the construction of the Alaska Railroad and the appropriating of $35,000,000 therefor, the statement was made that the mining of coal could be done in Alaska for from 50 to 75 cents a ton; from that up to $1.50 a ton; and that the coal could be delivered over this railroad, including the freight, at Seward for $2.50 a ton; that is, the actual cost of the coal mined and delivered at Seward would be $2.50 a ton.

Mr. McPherson. The figures submitted include all preliminary and development costs.

Mr. Dowell. Do the natives there engage in coal mining?

Mr. McPherson. No, sir; the coal in Alaska is in the interior, remote from transportation, except in the case of two or three minor lignite fields. Some little mining of lignite has been conducted on the shores of Cook Inlet by whites and natives.

Mr. Johnson. As a matter of fact, all the mines along the line of the railroad are governmentally operated?

Mr. McPherson. Yes, from the standpoint of a coal mine; but coal is being produced from two or three small deposits.

Mr. Strong. At what point on the railroad are these coal deposits?

Mr. McPherson. In the Matanuska field coal has been mined on Moose Creek by an independent group of lessees; but due to the fact that their mine is 4 or 5 miles from the railroad and that they are now in a state of reorganization, the mine has not been operated for the last year. The Government mine at Eska is producing approximately 50,000 tons per year, which is in excess of the requirements.

Mr. DOWELL. Where is that being shipped now, and what is being done with it?

Mr. MCPHERSON. That is being shipped to Anchorage for railroad purposes, except where it was needed for commercial purposes during the war.

Mr. DOWELL. And that is being used by the railroad?

Mr. MCPHERSON. That is being used by the railroad. I have a full statement of the mining costs that I will read to you later. At Chickaloon there is a lease under development; their principal work is prospecting and preliminary development. There is no coal being shipped from there now. The commission are developing a mine at Chickaloon from which there is a small production.

During the construction of the railroad coal was discovered at Houston, Mile 175. There has been some mining there and some production by men who have secured a lease permit from the General Land Office.

This last fall, on my trip over the road, I found that the roadhouse keeper at Chulitna, within 30 niles of the summit of Broad Pass, was getting coal for his fuel from a bed near his cabin. At the Broad Pass roadhouse I found the same condition.

At the western extension of the Nenana field coal has been discovered at Mile 366, and approximately 500 tons were mined last year and shipped to Nenana for the use of the railroad. At approximately Mile 380 a deposit of lignite was opened and is being developed. Lignite extends throughout the entire length of the road, from Little Susitna to the Nenana River.

Mr. DOWELL. Is that coal expensive to get out?

Mr. MCPHERSON. No; it will be remarkably easy to mine when they have finished the preliminary work. All mining is more expensive during the preliminary stages of operation.

The CHAIRMAN. Does the assay of any of the bodies of coal up there show that it will be suitable for Navy purposes and for coking purposes and smelting?

Mr. MCPHERSON. Yes, sir; there is high-grade coking coal in the Matanuska field.

The CHAIRMAN. Yes, I knew that.

Mr. MCPHERSON. The Matanuska coal was tested by the Navy and found suitable for their purposes; and that is the only field of high-grade coal on the line of the railroad.

The CHAIRMAN. Well, is that not the only large body of such coal in the United States, including Alaska, on the Pacific coast?

Mr. MCPHERSON. Yes, with the exception of the Bering Field in Alaska. We have a few minor beds of high-grade coal in the State of Washington; but they have never been developed commercially. But as to beds of commercial size, I think that the only ones are in Alaska, excepting those in British Columbia.

The CHAIRMAN. So that bringing that coal from Alaska will result in developing the iron and steel industry on the Pacific coast, and it will also provide the sort of coal that will be necessary and will supply the coal needed by the Navy on the Pacific coast?

Mr. MCPHERSON. Yes, the Alaska fields are the only fields of high-grade coal we have on the Pacific coast.

The CHAIRMAN. Yes, of course, there is some in British Columbia.

Mr. McFADDEN. Are you familiar with the situation around Nome, Alaska?

Mr. McPHERSON. Yes; I was there last in 1915.

Mr. McFADDEN. Well, speaking of that reindeer proposition, the original purpose in importing the reindeer into Alaska was to help the natives, was it not?

Mr. McPHERSON. To save the natives from starvation; and it has grown into an industry of which no one can estimate the importance. Those responsible for it estimate that Alaska will care for anywhere between ten and fifteen millions of those animals without any efforts——

Mr. McFADDEN (interposing). Are the natives in control of the industry?

Mr. McPHERSON. The natives are in control of about 69 per cent of the reindeer.

Mr. McFADDEN. I have a communication from a friend of mine at Nome that I want to read to you and get your comments on.

Mr. McPHERSON. I will be glad to hear it.

Mr. McFADDEN. This letter was written last fall. [Reading:]

> When the reindeer were introduced into Alaska by Dr. Sheldon Jackson, it was understood that they were to be developed by the natives and the natives only. Two or three or four years ago a company called Lomen & Co. came into existence.

Do you know that company?

Mr. McPHERSON. Yes, sir.

Mr. McFADDEN [reading:]

> You remember when the reindeer were introduced into Alaska by Sheldon Jackson that they were to be for the benefit of the natives and for the natives only. About three or four years ago a company called the Lomen Co. came into existence. This is headed by Jafet Lindeberg, president of the Pioneer Mining Co. This syndicate have gone into the reindeer business. There are a few Laps here who own deer. They were brought into this country when the deer were first brought over to teach the natives how to herd the deer. This company bought several hundred reindeer at first from these Laps. This is where they got their first start. Now they are buying from the natives all their male deer. It is against the law for natives to sell female to white men. Now this company pays the native $5 a head for a fawn. In six or nine months the company can get $15 or over for this fawn. They pay the natives $7.50 for a yearling and in a few months they can get $20 for it. To me they are just robbing the native of his living. This industry is a great blessing to the natives and would be a greater blessing to them if the whole industry was Government controlled and owned.

Mr. McPHERSON. As to those facts, I am not advised at all. Approximately 69 per cent of the reindeer are in the hands of the natives, and about 23 per cent a year ago were in the hands of the Lapland herders, and it was only from their herds that the whites were able to go into this industry in a commercial way. It was quite right they should; the natives were not permitted to sell any of their female reindeer, and it has been through that provision that they have held such a large proportion of the reindeer. This was a wise provision.

Mr. McFADDEN. Well, is it your impression that that company is taking charge of this thing in a way that is dertimental?

Mr. McPHERSON. I do not think so; as Lomen & Sons are men of high standing.

Mr. MONAHAN. The reindeer is a domesticated animal, is it not?

Mr. McPHERSON. Very easily domesticated.

Mr. Monahan. Do they have a tendency to run wild again?

Mr. McPherson. If they are not herded they will scatter, and that is the necessity for keeping them herded and belled.

Mr. Monahan. How about the musk ox?

Mr. McPherson. Viljahlmur Stefansson, who has just returned from a study of Arctic conditions, claims that they will be as easily domesticated as the reindeer, if not more easily; and that they live off the natural forage that the country affords, as the reindeer do.

Mr. Strong. Can they be herded by men afoot?

Mr. McPherson. Mr. Stefansson states that they are as easily domesticated as the reindeer.

Mr. Strong. And the reindeer are herded by men afoot, are they?

Mr. McPherson. Yes, sir.

Mr. McFadden. You spoke of knowing this Lomen Co. Are they engaged in the export business?

Mr. McPherson. The reindeer meat shipped to Minnesota of which I spoke, came from Nome. I understand that there are two companies that are commercially engaged in the reindeer business at Nome; and that they have secured their herds from the Lapland herders.

Mr. McFadden. Are those purely Alaskan companies, or have they any interests in the United States?

Mr. McPherson. Purely Alaskan. Lomen & Sons went to Nome 18 years ago, and have been there ever since. The father is an attorney, and the sons are all engaged in mercantile pursuits.

The proper reference of that communication I would suggest would be to W. T. Lopp, in charge of the reindeer industry in Alaska, with headquarters in Alaska.

Mr. McFadden. W. T. Lopp?

Mr. McPherson. Yes. Mr. Lopp was an original assistant of Dr. Sheldon Jackson and when Dr. Jackson died Mr. Lopp succeeded to the direction of that work, and it is due, in my judgment, to his ability in great part that such results have been secured.

Shall I proceed with my statement?

The Chairman. Yes.

Mr. McPherson. We were on the expenditures for the Anchorage townsite. The total expenditures for the townsite of Anchorage were $228,521.52. The accrued assessments and rents were $111,587.17. The net investment of the Alaskan Engineering Commission to date—or to March 31, 1919—was $70,016.58. The 50 per cent of the sale of lots that was refunded in the year 1918 totaled $64,760.40; so that of the total expenditure in the Anchorage townsite there has only been chargeable to date against the $35,000,000 appropriation the sum of $5,256.18.

The gross receipts of the General Land Office to date from the sale of lots at Anchorage are $145,211.97. The Alaskan Engineering Commission proportion was $64,760.40. Deducting the amount charged to the Alaskan Engineering Commission appropriation of $5,256.18, shows a net profit to the United States of $75,195.39, from the sale of Anchorage town lots, as of March 31, 1919.

The deferred payments from the Anchorage townsite are $62,854, as returned by the General Land Office, and that sum, added to the $75,195.39, makes the net profit on the Anchorage townsite to the Government as of date $138,049.39.

Personally I would like to urge the advisability of continuing in effect that 50 per cent provision to cover these expenditures. It makes no difference to the Alaskan Engineering Commission, because they will recover it from assessments on the lots if not from this fund. but it does make a big difference to the pioneers who are trying to build homes.

Mr. **McFadden**. I was not here in the beginning of this testimony, and I am new on this committee. I wish you would tell me how we can get information showing how large an organization you have, how much of it is in Washington, and how much of it is in Alaska.

Mr. **McPherson**. I will introduce into the record a statement of the disposition of forces July 12, 1919. We are advised of the disposition of forces weekly. In Washington on that date there were 6, of whom 4 were temporary and only two permanent. In Seattle, in the purchasing and disbursing division, there were 20. On the Seward division, from Mile 0 to Mile 71, there were a total of 581. They are all given on this list; do you care to have me read all of these?

Mr. **McFadden**. No; you can let it go in the record.

Mr. **McPherson**. I will insert it in the record, and give you only the main divisions. On the Anchorage division, from Mile 71 to the Broad Pass Summit, there was a total of 1,003. On the Fairbanks division, there was a total of 855; or a grand total for that week of 2,465. That week showed an increase over the preceding week of a total of 146.

(The statement referred to is as follows:)

*Alaskan Engineering Commission, disposition of force, July 12, 1919.*

| | General maintenance and operation. | New work. | | Total. | Total as returned. |
|---|---|---|---|---|---|
| | | Force account. | Contractors. | | |
| Washington, disbursing 2, others temporary | 6 | | | | 6 |
| Seattle, purchasing and disbursing | 20 | | | | 20 |
| Seward division: | | | | | |
| Mile 0— | | | | | |
| Headquarters office | 12 | | | | |
| Stores | 14 | | | | |
| Shops | 54 | | | | |
| Dock operation | 5 | | | | |
| Dock construction | | 44 | | | |
| Telegraph and telephone | 5 | | | | |
| Engineers, Seward | 2 | | | | |
| Transportation and work trains | 29 | | | | |
| Seward yard | | | 4 | | |
| Maintenance | 23 | | | | |
| Mile 4— | | | | | |
| Logging | | 7 | | | |
| Engineers | | 6 | | | |
| Mile 21, engineer | | 1 | | | |
| Mile 26, grading | | | 20 | | |
| Mile 32, grading | | | 15 | | |
| Mile 40, steam shovel | | 51 | | | |
| Mile 49, grading | | | 10 | | |
| Mile 52— | | | | | |
| Engineers | | 14 | | | |
| Grading | | | 144 | | |
| Steam shovel | | 32 | | | |
| Stores | 3 | | | | |
| Tunnels | 29 | | | | |
| Mile 54, bridge construction | | 47 | | | |
| Mile 62, grading | | | 7 | | |
| Mile 71, steam shovel | | 3 | | | |
| Total | 176 | 205 | 200 | | 581 |

*Alaskan Engineering Commission, disposition of force, July 12, 1919.*—Continued.

| | General maintenance and operation. | New work. | | Total. | Total as returned. |
|---|---|---|---|---|---|
| | | Force account. | Contractors. | | |
| Anchorage division: | | | | | |
| Mile 68, filling bridge | | 65 | | | |
| Mile 72–84, riprap and snowsheds | | 48 | | | |
| Mile 114— | | | | | |
| Headquarters office | 31 | | | | |
| Harbor | | 39 | | | |
| Stores and material yard | 68 | | | | |
| Docks and boats | 54 | | | | |
| Operation road | 57 | | | | |
| Power and pumping station | 13 | | | | |
| Maintenance equipment | 50 | | | | |
| Maintenance floating equipment | 19 | | | | |
| Maintenance of way | 187 | | | | |
| Hospital | 11 | | | | |
| Town site and land | 11 | | | | |
| Coal mining, Eska | 82 | | | | |
| Coal mining, Chickaloon | 33 | | | | |
| Mile 227— | | | | | |
| Talkeetna division, grading, etc | | 183 | | | |
| Stores | 3 | | | | |
| Mile 283, grading | | | 17 | | |
| Mile 290, surveys, Broad Pass | | 35 | | | |
| | 619 | 370 | 17 | 1,006 | 1,003 |
| Fairbanks division: | | | | | |
| Mile 362, surveys | | 9 | | | |
| Mile 365, wood | | | 6 | | |
| Mile 374–388, grading and surfacing | | 91 | | | |
| Mile 388–404, grading and surfacing | | 107 | | | |
| Miles 414–365, maintenance of way and linemen | 47 | | | | |
| Mile 414— | | | | | |
| Headquarters office | 14 | | | | |
| Stores and material yards, watchmen, janitors, etc | 54 | | | | |
| Docks and boats | 3 | | | | |
| Operation road | 7 | | | | |
| Power and pumping plant | 7 | | | | |
| Maintenance of way and equipment | 18 | | | | |
| Hospital | 11 | | | | |
| Townsite and land | 3 | | | | |
| Construction | 8 | | | | |
| Electric lights, telephone, and telegraph | 12 | | | | |
| Ties and logs | | | 5 | | |
| Sawmill and lumber yard | | 21 | | | |
| Bank protection | | 5 | | | |
| Operation | 5 | | | | |
| Mile 415, surfacing and track laying | | 31 | | | |
| Mile 415–463, construction | | 17 | | | |
| Mile 423, engineers, graders | | 16 | 60 | | |
| Mile 432, engineers, graders | | 20 | 74 | | |
| Mile 440, engineers, graders | | 8 | 55 | | |
| Mile 449, engineers, graders | | 14 | 63 | | |
| Mile 454–471, maintenance | 15 | | | | |
| T. V. R. R., general | 5 | | | | |
| Maintenance | 28 | | | | |
| Operation | 9 | | | | |
| Rehabilitation | | 7 | | | |
| Total | 246 | 346 | 263 | | 855 |
| Grand total | 1,067 | 921 | 480 | 2,468 | 2,465 |
| Changes since July 5: | | | | | |
| Seward division | −17 | −12 | 62 | | 33 |
| Anchorage division | 19 | 63 | | 82 | 79 |
| Fairbanks division | 3 | 22 | 9 | | 34 |
| Total | 5 | 73 | 71 | 149 | 146 |

Mr. McPherson. I will also introduce into the record at this time the condensed statement of materials and supplies on hand and in transit, July 1, 1919.

*Material and supplies on hand and in transit July 1, 1919.*

| | Seward. | Anchorage. | Fairbanks. | Total. |
|---|---|---|---|---|
| Commissary | $30,200 | $243,200 | $76,000 | $349,400 |
| Stock feed | 500 | 23,400 | 23,000 | 46,900 |
| Trade goods | 3,600 | 32,800 | 40,000 | 76,400 |
| Rail and fittings | 9,100 | 426,700 | 85,300 | 521,100 |
| Ties | 200 | 127,400 | ............ | 127,600 |
| Bridge material | 61,600 | 285,200 | ............ | 346,800 |
| Snowshed material unapplied | (44,100) | ............ | ............ | (44,100) |
| Explosives | 14,600 | 83,300 | ............ | 97,900 |
| Construction, miscellaneous | 18,300 | ............ | 80,400 | 98,700 |
| Maintenance and operation | 42,000 | 334,200 | 46,200 | 422,400 |
| Miscellaneous construction and maintenance and operation | 34,600 | 186,800 | 32,200 | 253,600 |
| Fuel | 11,100 | 257,400 | 4,400 | 272,900 |
| Rolling stock | 2,600 | 76,400 | ............ | 79,000 |
| Total | 228,400 | 2,076,800 | 387,500 | 2,692,700 |

### KEY TO CONDENSED CLASSIFICATION OF MATERIALS AND SUPPLIES.

Commissary, account 6: Provisions, i. e., all boarding-house supplies, provisions, and eatables.

Stock feed, account 10.

Trade goods, account 38: All articles handled in our stores for sale to employees.

Rail and fittings, account 30: Rail, such as 56-pound and 70-pound, but not lighter. Account 47: Other track material, such as switches, frogs, switch points, track spikes, track bolts, etc.

Ties, account 43: Both sawed and hewn track ties, but not bridge ties.

Bridge material, account 34: Structural steel, includes all steel and iron for building steel bridges and any other steel structures, and also castings, bolts, rods, nuts, wrenches, and washers for wooden bridges. Account 44: Bridge lumber includes all lumber used in the construction of bridges and trestles, also includes bridge ties, but not piling.

Snowshed material, account 20½.

Explosives, account 14: Explosives, powder, caps, and fuse.

Construction, miscellaneous, account 4: Brick, cement, and lime. Also includes plaster, clay, coarse sand, gravel, and crushed rock. Account 12: Doors and windows. Account 13½: Telegraph and telephone materials and supplies. Account 16: Hardware. Account 20: Lumber (general construction). Does not include snowshed material, bridge lumber, or ties. Account 31: Piling. Does not include poles. Account 45: Poles, including telegraph and telephone, semaphore and other poles.

Maintenance and operation, account 2: Steam shovel parts. Account 3: Belting, lacing, and belt hooks. Account 5: Tents, etc. Account 7: Fire apparatus. Account 8: Floating equipment repairs, including lumber for repairs. Account 9: Casting (road). Account 11: Distillate gasoline and coal oil. Account 13: Electric supplies and fittings. Account 17: Teaming equipment. Account 21: Locomotive repair parts. Account 22: Messhouse furniture and equipment. Account 24: Office furniture and fixtures. Account 25: Oil, grease, packing, and waste. Also includes oakum, asbestos, boiler and pipe covering, etc. Account 33: Mess equipment. Account 35: Tools (small) and supplies. Account 36: Stationery. Account 39: Hospital supplies. Account 40: Boilers, stationary engines, and repair parts. Account 41: Narrow-gauge cars, car parts, locomotives, rail and supplies (used on construction only). Account 42: Live stock. Account 48: Engineering instruments and supplies.

Miscellaneous construction and maintenance and operation, account 19: Iron and steel (not including structural steel). Account 23: Nuts, bolts, washers, and rivets. (Does not include bridge bolts or washers.) Account 26: Paint and oil. Account 27: Pipe, valves, and fittings. (Does not include strictly plumbing goods.) Account 28: Pulleys, fittings, and shafting. Account 29: Pumps (miscellaneous), and repair parts for same. Account 32: Rope, cable, and sheaves. Account 37: Unclassified. Account 46: Plumbing and heating supplies only.

Fuel, account 15: Coal, wood, and fuel oil.

Rolling stock, account 1: Equipment, railroad and floating. (Does not include equipment received from Panama. Account 18: Panama equipment.

Mr. McFadden. On this work that you are doing in the construction of the railroad, is that being done direct, or is it sublet to contractors?

Mr. McPherson. Of the forces engaged last week, 480 were contractors.

Mr. McFadden. How are those contracts let?

Mr. McPherson. Those are all station contracts, let to individuals, or groups of individuals, who take a contract for anywhere from 100 feet to perhaps half a mile, if the group is large enough. Their profits are divided equally.

Mr. Dowell. What do you mean by "divided equally"?

Mr. McPherson. Amongst the various members in the group.

Mr. McFadden. Are those contracts let on a percentage basis?

Mr. McPherson. No; they are let on a cost per cubic yard basis.

Mr. McFadden. And that is based on your estimates?

Mr. McPherson. That is based on our surveys.

Mr. McFadden. Based on the engineers' estimates?

Mr. McPherson. We have in the office of every engineer in charge and in the office of every resident engineer a chart which shows the earnings per hour of every station contractor on the job.

Mr. Strong. Are those contracts let to laborers?

Mr. McPherson. Entirely to laborers. By that means the commission has done away with the profits to the contractors.

Mr. McFadden. Do they furnish their own equipment?

Mr. McPherson. They furnish their own equipment, or else the commission rents it to them at a fixed charge.

Mr. Strong. Who has control of these pictures shown in this room?

Mr. McPherson. The Alaskan Engineering Commission.

Mr. Strong. Would they be available to this committee when this bill is presented to the House of Representatives?

Mr. McPherson. They will, sir.

Mr. Strong. It occurs to me, Mr. Chairman, that it will be a very good thing to have these pictures in their present shape taken down and put in the House cloakroom. It will give a good deal of information to have them there.

The Chairman. Yes; I will ask to have them put in the cloakroom when the bill is before the House.

Mr. Strong. I think they will give information and cause some discussion which will bring about considerable interest in the road.

Mr. McPherson. Yes; "seeing is believing."

The Chairman. I have about made arrangements to have moving pictures of the Alaskan Railroad to be exhibited in the caucus room of this building.

Mr. Strong. That would be better.

The Chairman. But the Naval Affairs Committee of the House are holding meetings in that room, and they have a lot of valuable records there that I do not feel disposed to be responsible for.

Before the hearing this afternoon Mr. McPherson and the clerk can go to the caucus room and see what arrangements they can make. Of course, we will have to obtain the permission of the Speaker of the House, and I think the Committee on Naval Affairs will be satisfied if we get the permission of the Speaker; but I do not feel that I ought to be personally responsible for the mass of records of the Naval Affairs Committee.

Mr. McPherson. We have in the Department of the Interior an excellent auditorium, and we could arrange to take the committee down there if that is agreeable to you.

The Chairman. Well, of course, the way to show the pictures would be to have the Members of Congress attend with their wives, if they wanted to bring them. So far as the committee is concerned, they know about it. I do not believe that under the present conditions—the Members of Congress have been working pretty hard—that it would be possible to get any number of them to go down to the Interior Department at this time; do you, Mr. Strong?

Mr. Strong. I doubt it. If we had the pictures in this building, we could get a good attendance.

The Chairman. Yes; we could fill the room. During the recess Mr. McPherson and the clerk can see about getting the room.

Mr. McFadden. Do I understand correctly that this proposed appropriation will complete the railroad?

Mr. McPHERSON. It will complete the road; yes, sir.

Mr. McFADDEN. How much time will be required for the completion?

Mr. McPHERSON. To the end of December, 1922.

Mr. STRONG. What is the total amount that has now been expended?

Mr. McPHERSON. With the appropriation granted this year, $35,000,000.

Mr. STRONG. And you are asking for $17,000,000 more?

Mr. McPHERSON. We are asking for $17,000,000 additional; yes, sir.

Mr. STRONG. Making $52,000,000 altogether?

Mr. McPHERSON. $52,000,000; yes, sir.

Mr. STRONG. Is there hope that the returns or earnings will pay any interest on that amount?

Mr. McPHERSON. Ultimately, there is no question in my mind as to the returns. Alaska has produced approximately $847,000,000 since we purchased it. The total commerce of Alaska is about $1,295,000,000; so that Alaska in the time we have had it, and under the most adverse conditions ever met with in any pioneer development, has sent out $2 for every $1 that has gone into the country. The construction of this road is the first measure of constructive development for the opening of Alaska's rich resources.

Mr. McFADDEN. Your commission is operating the road as it is constructed, is it not?

Mr. McPHERSON. It is.

Mr. McFADDEN. And will continue to operate it, at least until the road is completed?

Mr. McPHERSON. Until the road is completed; yes.

Mr. McFADDEN. Then what is your purpose?

Mr. McPHERSON. That rests with the President, as I understand it—or with Congress.

The CHAIRMAN. The original act provides that it may be leased or operated by the Government for a certain length of time.

Mr. McPHERSON. The investments in the townsite are as follows—I will give you the totals rather than the items.

Mr. McFADDEN. The whole statement will go into the record, I suppose?

Mr. STRONG. Then you can just give us the investment and the receipts.

Mr. McPHERSON. The cost of townsite improvements and all other investments at Nenana is $92,958.27, of which assessments have accrued to a total of $57,117.87. The net investment of the Alaskan Engineering Commission is $21,656.71, and the amount accrued from 50 per cent of lot sales in one year is $30,686.20. Total amount of receipts from sale of town lots at Nenana $74,665.44; less the proportion to the Alaskan Engineering Commission of $30,686.20, showing a balance to the credit of the general fund of $43,979.24; amount of deferred payments, $63,335; or a total return to the Government of $116,343.73.

(The statement referred to is as follows:)

*Townsite statement—Nenana—to Mar. 31, 1919.*

| | Cost. | Assessments accrued. | Net investment Alaskan Engineering Commission. | Amount accrued account 50 per cent of lot sales. |
|---|---|---|---|---|
| Townsite improvements | $75,117.87 | $57,117.87 | $17,251.30 | |
| Post office | 591.56 | | 591.56 | |
| Jail | 3,587.83 | | 3,587.83 | |
| Schoolhouse | 13,434.99 | | | |
| Federal reserve | 226.02 | | 226.02 | |
| | 92,958.27 | 57,117.87 | 21,656.71 | 30,686.20 |
| Amount to be refunded to $35,000,000 appropriation when collected | | | 9,029.49 | |
| | | | 30,686.20 | |

| | |
|---|---|
| Total amount of receipts from sale of town lots by General Land Office | $74,665.44 |
| Alaskan Engineering Commission proportion | 30,686.20 |
| Balance to credit of general fund | 43,979.24 |
| Add amount to be refunded to $35,000,000 appropriation when collected | 9,029.49 |
| Profit of United States from Nenana town lots | 53,008.73 |
| Deferred payments collectible 1920 | 63,335.00 |
| | 116,343.73 |

As to the townsites of Wasilla and Matanuska, the total investment at Matanuska was $10,530.18, and at Wasilla it was $1,090.31, a total for the two towns of $11,620.49. The amounts received from sales of town lots by the General Land Office were: Matanuska, $3,961.18; Wasilla, $4,125.50; or a total for the two towns of $7,086.68. The amount of apparent loss to the United States up to this time is $4,533.81; but the deferred payments collectible in 1920 total: At Matanuska, $5,394; and at Wasilla, $1,440; or for the two towns, $6,834.

(The statement referred to is as follows:)

*Townsite statement, Wasilla and Matanuska, to Oct. 31, 1919.*

| | |
|---|---|
| Cost of townsite improvements: | |
| Matanuska | $10,530.18 |
| Wasilla | 1,090.31 |
| Total | 11,620.49 |
| Amount received from sales of lots by General Land Office: | |
| Matanuska | 3,961.18 |
| Wasilla | 4,125.50 |
| Total | 7,086.68 |
| Amount of loss to United States thereon | 4,533.81 |
| Deferred payments collectible 1920: | |
| Matanuska | 5,394.00 |
| Wasilla | 1,440.00 |

Mr. JOHNSON. Is that a balance sheet covering all of the Government towns?

Mr. MCPHERSON. Covering all of the Government towns, yes.

Mr. Johnson. Is the town of Anchorage an asset or a liability?

Mr. McPherson. It is an asset.

Mr. Johnson. Counting the deferred payments?

Mr. McPherson. No; outside of the deferred payments.

Mr. Johnson. Well, is the town of Anchorage prosperous now or otherwise?

Mr. McPherson. When I was there last September it was prosperous.

Mr. Johnson. It had a population of about what?

Mr. McPherson. Last September I should judge approximately 2,500.

Mr. Johnson. And employed there or near there on the railroad, how many? On the Anchorage division, how many?

Mr. McPherson. Approximately 1,006.

Mr. Johnson. That is, the population of Anchorage is mostly railroad employees and their families?

Mr. McPherson. No; there is a mercantile business there; the mercantile business of the district surrounding Anchorage—the Matanuska coal fields; the Willow Creek mining district, which had a very prosperous year; and then there are approximately 250 homesteaders in the Matanuska Valley; and then there is the fish industry.

Mr. Johnson. How many banks are there in Anchorage?

Mr. McPherson. Two.

Mr. Johnson. Do they charge a percentage on the cashing of Government warrants now?

Mr. McPherson. I am not advised as to that. At Anchorage the force on July 11 consisted of: Headquarters office, 31; harbor work, 39; stores, material, yard, and miscellaneous help, 68; docks and boats, 54; operation of the road of the Anchorage division, 57; power and pumping station, 13; maintenance of equipment, 50; maintenance of floating equipment, 19; hospital, 11; townsite and land, 11. That was the full force at Anchorage.

The next inquiry that was made was as to the total revenues. The railway operating revenues from March 12, 1914, to March 31, 1919, were as follows—I will just give you the totals and will incorporate the entire report in the record, if that is your wish.

Mr. McFadden. All right.

Mr. McPherson. The total revenue on the Anchorage division was $478,851.05; on the Fairbanks division, it was $178,485.51; on the Seward division, $105,514.48, or a grand total for the three divisions of $762,651.04.

The expenditures on the Anchorage harbor to October 31 last, when work for the winter ceased, were $124,618.16; the estimated cost to complete, as of date March 31, 1919, was $125,000.

Mr. Johnson. Let me ask this question at this point: The expenditures on the Anchorage harbor improvements were how much?

Mr. McPherson. $124,618.16.

Mr. Johnson. Does that mean the dredging of the harbor?

Mr. McPherson. It does.

Mr. Johnson. And the building of the dock?

Mr. McPherson. And the building of the approach and the building of the dock.

Mr. JOHNSON. Yes. Now, does that figure include lighters, boats, and material of that kind?

Mr. MCPHERSON. All work pertaining to the construction of that dock, yes.

Mr. JOHNSON. It can not include vessels owned by the Alaskan Engineering Commission and operated on the water?

Mr. MCPHERSON. No.

Mr. JOHNSON. It does not include tugs or pleasure boats, or anything of the kind?

Mr. MCPHERSON. No, sir.

The other item that was asked for was the Seward Dock, which was bought from the Alaska Northern Railroad at a price estimated at $58,958.09; the improvements to April 30, 1919, cost $23,006.51. The estimated cost to complete is $21,041, or a total for the Seward Dock of $103,005.60.

(The statement referred to is as follows:)

*Railway operating revenues, Mar. 12, 1914, to Mar. 31, 1919:*

| Item. | Anchorage division. | Fairbanks division. | Seward division. | Total, all divisions. |
|---|---|---|---|---|
| Freight | $189,221.08 | $73,036.27 | $17,966.16 | $280,223.51 |
| Water transfer—other | 10,188.66 | | | 10,188.66 |
| Passenger | 103,957.80 | 30,232.31 | 29,626.19 | 163,816.30 |
| Mail | 1,375.43 | 13,158.10 | 3,805.72 | 18,339.25 |
| Express | 101.80 | | | 101.80 |
| Telegraph and telephone lines | 50,014.27 | 6,038.60 | | 56,052.87 |
| Power | 62,874.98 | 30,159.21 | | 93,034.19 |
| Miscellaneous | 61,117.03 | 23,820.46 | 50,746.76 | 135,684.25 |
| Rents of railroad buildings (does not include rental of cottages) | | 2,040.56 | 3,369.65 | 5,410,21 |
| | 478,851.05 | 178,485.51 | 105,514.48 | 762,651.04 |

MISCELLANEOUS INFORMATION.

| | |
|---|---|
| Anchorage harbor improvements: | |
| Cost to Oct. 31, 1918 (when work ceased) | $124,618.16 |
| Estimated to complete—Gerig—Mar. 31, 1919 (additional) | 125,000.00 |
| Seward Dock: | |
| Bought with Alaska Northern at price | 58,958.09 |
| Improvements to Apr. 30, 1919 | 23,006.51 |
| Total to Apr. 30, 1919 | 81,964.60 |
| Estimated cost to complete | 21,041.00 |
| | 103,005.60 |

The total investment in the Government cottages or residences is $199,758.65. There has been a total return from rents at Anchorage of $21,360.03; at Seward four cottages rent for $15 a month each; and at Nenana nine cottages rent at from $32.50 to $35 per month, and one cottage at $10 a month. We have not the totals of the rents received at Seward and Nenana; we have called for that data. The rental of the cottages at Anchorage ranges from $12 to $50 a month.

The CHAIRMAN. When do you expect to receive that data?

Mr. MCPHERSON. I expect to get it to-day or to-morrow.

The CHAIRMAN. You can insert it in the record when you receive it.

(The statement referred to is as follows:)

| | |
|---|---|
| Nenana rentals, total | $6,180.33 |
| Seward rentals, total | 1,309.00 |

At Seward three cottages have been used as barracks for Army detachments since March 27, 1918.

*Government cottages.*

| | |
|---|---|
| Alaskan Engineering Commission, gross investment: | |
| Seward | $6,649.70 |
| Anchorage | 147,651.03 |
| Nenana | 45,457.92 |
| Total | 199,758.65 |
| Revenue (35 cottages, total rent received): | |
| Anchorage, from Oct 1, 1915, to Feb. 1, 1919 | 21,360.03 |
| Seward | 1,309.00 |
| Nenana | 6,180.33 |
| Total rent received | 28,849.36 |

Mr. STRONG. Will you permit a question on another point?

Mr. MCPHERSON. Yes; certainly.

Mr. STRONG. What are the timber interests up there? Are they of much value?

Mr. MCPHERSON. The Alaska spruce is a timber that we class as of secondary grade on the Pacific coast. It is not of value for structural purposes, but is of value for ties and piling. All of the merchantable spruce on the coast of Alaska is embraced in the forest reserves.

Mr. JOHNSON. Not only on the coast of Alaska, but elsewhere, is it not?

Mr. MCPHERSON. No; the reserves cover only the coast. The spruce of the interior valleys around Fairbanks has been pretty well cut off for fuel for the last 10 or 12 years. But there is still considerable spruce of commercial value in those valleys. The value of Alaska timber is in its value for paper pulp. There are enormous quantities of it.

Mr. DAVEY. Of wood suitable for paper pulp?

Mr. MCPHERSON. Yes; wood suitable for paper pulp, and provision should be made for starting this industry. We are now importing our paper from British Columbia, and helping to build the paper-pulp industry of British Columbia. Instead, we should build such an industry in Alaska.

The CHAIRMAN. Certainly there should be something done to take advantage of the pulp wood in Alaska and start a paper-pulp industry. But how can it be done, in the face of a department that prohibits its use? Of course, we will have to open that up—although this railroad has nothing to do with that. That is in a different portion of Alaska. That is in the Tenana section.

There was an organization at San Francisco, a corporation, that wanted to start a paper-pulp industry on the Alaska coast, and they could not get any consideration whatever for it; they were not permitted to go ahead. They had offers for it, but the department wanted to give them a 20-year franchise, charge them as much to start with as they would have to pay for a factory in New York, and have the fixing of the cost in the hands of the department itself, without the people who had their money invested having a word to say about it; and having it refixed every three or five years, according to the judgment of the department.

Now, it would cost from $10,000,000 to $17,000,000 to go up into Alaska and put up a town for the employees, to buy the land and construct the buildings and the plant, and construct roads to bring out the wood, and to get the light and the power and the water. These people could not stand for that; but they have invested $17,000,000 in a similar plant in Canada. That is on account of our conservation policy, so called. It is not conservation at all. I believe in conservation and use. There is enough paper-pulp wood up there to supply the universe with paper for a thousand years. They will not let us use it; that is all.

Mr. Davey. Mr. Chairman, the question of the gentleman from Kansas was intended to bring out, I think, the natural resources, particularly those that were connected, directly or indirectly, with this railroad project.

The Chairman. Well, that has nothing to do with the railroad project; that is in a different part of Alaska.

Mr. Davey. Would it have any bearing on the railroad in any way?

The Chairman. Not at all.

Mr. Strong. Well, if the industry were established, there would be plenty of wood available along this line of railroad, would there not?

Mr. McPherson. There are large areas of timber along the line of the railroad, throughout the Matanuska, Susitna, Nenana, and Tanana Valleys, and the character of that wood is illustrated by the photograph taken in the Susitna Valley [indicating].

Mr. Davey. Is there any that is suitable for paper pulp?

Mr. McPherson. Yes; but the chief paper-pulp industry will be on the coast of Alaska.

Mr. Strong. There is plenty of it there?

Mr. McPherson. Yes; but the timber in the valleys traversed by the railroad is a big resource for the future.

Mr. Davey. Well, here is the point I wanted to bring out: What are all of the available resources that will become possible material for transport on this railroad?

Mr. McPherson. Primarily, the one that will be the first developed—probably not in the value of its ultimate importance—is the mining industry in the region tributary to this railroad. That region has produced, as you will notice on page 56 of my report, mineral products of the value of $111,006,121, to the end of 1918. And that was under very unfavorable conditions, and was principally placer gold, as it was impossible to mine any of the low-grade minerals, under the economic conditions that prevail in that region, or anywhere in the interior of Alaska. Without question, the greatest value for the first few years will be out of gold. But the other mineral resources, including antimony, tungsten, tin, copper that has been recently discovered, and other minerals of lesser value will also be produced. There are also coal deposits ranging in quality from lignite to bituminous, and possibly, anthracite.

Mr. Monahan. Has any anthracite been discovered up there?

Mr. McPherson. Yes, in the extreme eastern portion of the Matanuska field and in the extreme eastern portion of the Bering field. But as to its extent commercially, no information is now available. No work has been done toward its development, as it is remote from transportation. The valleys immediately tributary to the railroad will support ultimately a large agricultural population.

Mr. McFadden. Is it contemplated that eventually, as they get developments, there will be spurs built off from this railroad into the valleys as you suggest?

Mr. McPherson. As traffic requires that will be the case.

The meat possibilities I have covered before—not only in reindeer, and possibly musk ox, but in our domestic animals, cattle, hogs, and sheep.

Mr. Monahan. What is the possible future of the musk ox? Will it be successful in that country?

Mr. McPherson. After a long talk with Mr. Stefansson, I believe that it will be equally as successful as that of reindeer.

Mr. Monahan. How many years have they been experimenting with it?

Mr. McPherson. They have not started. It is the investigation of Mr. Stefansson, in the Arctic that has drawn it to our attention. Bands of musk ox roamed over northern Alaska in early years, but with the introduction of firearms among the Eskimos in early days, the musk ox were exterminated, as were the buffalo from our western plains.

Mr. Monahan. Are there many caribou in that country?

Mr. McPperson. They are probably numbered by the hundreds of thousands.

The Chairman. The caribou is a wild animal, is it not?

Mr. McPherson. The caribou has never been a domesticated animal.

Mr. McFadden. The caribou is a much larger animal in Nova Scotia?

Mr. McPherson. They are larger than the reindeer.

Mr. McFadden. Are they in Alaska?

Mr. McPherson. Yes.

Mr. Monahan. Are they capable of being domesticated?

Mr. McPherson. I understand that some of the pioneers are going to attempt it. But the department in charge of the reindeer industry is now considering bringing in other and larger deer, and through cross-breeding, increasing the size of the Alaska reindeer.

Mr. Monahan. Did you say by cross-breeding?

Mr. McPherson. Yes, sir.

Mr. Monahan. How about fur-bearing animals along that railroad?

Mr. McPherson. As civilization advances, naturally the wild fur industry decreases. But many of the pioneer farmers of Alaska have initiated domestic fur farming, and some of them are making a splendid success; but, like all new ventures, many fail. They have to learn by experience.

Mr. Dowell. I was not present yesterday when you began your statement. Where is this line that is now properly built? Will you indicate it on that map on the wall?

Mr. McPherson. The line is under operation from Seward to Talkeetna, on the main line at Mile 227, including the Matanuska Branch, 37.7 miles in length, and the Eska and Moose Creek spurs. It is in operation also south from Nenana a distance to approximately 49 miles, to Mile 365.5, in the western extremity of the Nenana coal field.

Track is now being laid north of Nenana, and also south from the northerly and Fairbanks end of the track, and last week the gap between those ends of steel was 34 miles. It is hoped to have that gap completed by the end of this season, so that they can deliver coal to Fairbanks.

Mr. STRONG (interposing). How will they get the coal in then without any bridge over the Tenana River?

Mr. McPHERSON. They cross on the ice.

Mr. STRONG. They haul it to the river and cross on the ice?

Mr. McPHERSON. Yes. Track is laid on the ice.

Mr. DAVEY. That will make that northern line how long when that gap is closed?

Mr. STRONG. From the coal field?

Mr. McPHERSON. From Mile 365 to Mile 471; it will be 106 miles.

Mr. DOWELL. Does that include all the spurs on the north end?

Mr. McPHERSON. No, sir. There is a 31-mile spur extending from Mile 463 to Chataneka and a 5-mile spur extending from Mile 471 to Chena.

Mr. DOWELL. What is the distance from the north to the south ends of the road?

Mr. McPHERSON. From Talkeetna, at Mile 227, the line is in progress and being completed up to Mile 265. We have 27 miles finished and ready for track laying. There is a force engaged now in pushing that work. From Mile 265 to Mile 365 no work has been done other than surveys.

Mr. DOWELL. What is the condition of that section of territory?

Mr. McPHERSON. Broad Pass is about 3 miles wide and about 18 miles in length. It is one of the lowest passes through a major mountain range on the North American Continent. I know of only one pass through a major range that is as low in altitude, and that is the Peace River Divide on the Grand Trunk Pacific Railway.

Mr. DOWELL. How high is that summit in Alaska?

Mr. McPHERSON. Broad Pass is 2,418 feet high.

Mr. DOWELL. Is that the reason the road is built from both the ends and not directly across?

Mr. McPHERSON. The reason for building from the north end [indicating on map] was to complete the project sooner and provide a supply of fuel from the Nenana field for the Fairbanks district. If the road had been constructed only from the southern end it would have taken far longer to construct.

Mr. DOWELL. Is the road to go over the divide, or will there be tunneling?

Mr. McPHERSON. There will be only 1,385 feet of tunneling, and that will be in the Nenana canyon. There is no tunneling at all on the Broad Pass summit; it is a broad, rolling divide, in which are many innumerable lakes, as shown on this map [indicating].

Mr. GRIGSBY. The bridge at Nenana is awaiting its completion, is it not?

Mr. McPHERSON. Yes, and this bridge will not be constructed until rail is connected through.

Mr. GRIGSBY. That bridge is included?

Mr. McPHERSON. The cost of the bridge is included, and it will be the last work to be constructed, so as to save the enormous freight cost of shipping the material around by water.

I submit also statement explanatory of townsite management, which with your permission I will insert in the record.

(The statement is as follows:)

Relative to the suggestion that the management of the townsites located on the lines of the Alaskan Railroad should be turned over to the citizens of these communities the executive orders and regulations hereinafter quoted will determine that under the law this will not be practicable until title shall have passed from the Government to the purchasers of said property. Power to tax property, the title to which is vested in the United States Government, does not reside in a municipal organization. Until such time as under the law the title has passed from the United States to the purchasers of town property, the organization of a municipality would be ineffective. The five-year period for the acquirement of such title in some of the towns of the Alaskan Engineering Commission would have expired in August, 1918, had it not been necessary to extend the time for the perfecting of such titles for the period of one year, in order to accommodate conditions arising from the war. By Executive order of October 25, 1918, final payments due in August, 1918, were postponed for one year.

With respect to the investment made by the Alaskan Engineering Commission in the development of these town sites, the attention of the committee should be called to the necessity for the establishment of such towns at intervals along the line of any railroad, in order to encourage and to create traffic for such railroad, as well as for the preservation of the health and morals of the community during the construction period. The practical immunity of the Alaskan towns located on the line of this railroad from loss by fire has been due to the Government's activities in this regard. The water systems, and fire departments have proved effective in preventing and controlling fire conditions.

In the statements which have been filed showing the investments out of the Alaskan engineering appropriations, no account was presented of the cost of operating and maintaining these townsites, for the reason that the cost of such operation and maintenance is recovered by special assessments made upon the residents of such community, by means of which the cost of such operation and maintenance is recoverable. For example: Since the extablishment of the townsite of Anchorage, in 1915, to June 30, 1918, four tax levies for maintenance have been assessesd against the townsite property, in each case covering expenditures made by the commission for periods of less than a year. The total cost of maintenance and operation for this period as recovered by the townsite tax was $99,981.45, from which must be deducted $23,061.75, collected in water rates for services rendered, leaving the net expenditures for maintenance $76,919.70. The total of the four assessment rolls amounts to $54,381.34, less cancellation of $1,350.13, leaving a net amount of $53,031.21 to offset this $76,919.70 expenditure made by the commission. It is expected that the delinquent taxes for maintenance will either be collected or recovered from the sale of the property for delinquent tax. The remainder of the cost of operation, i. e., the difference between $76,919.70, which is the net cost of maintenance and operation, and the $53,031.20 recoverable on the assessment rolls, to wit, $23,888.49, is a proper allocation of the cost of maintenance against the property of the United States unsold within such townsite, and against the improved property owned and rented by the Alaskan Engineering Commission to its employees, which amount is recoverable from the occupants of such property, through the medium of the rental charges collected therefrom.

For the information of the committee, the following statement is made concerning the townsite activities of the Alaskan Engineering Commission. The act of March 12, 1914, provides, among other things:

"The President is hereby authorized to withdraw, locate, and dispose of, under such rules and regulations as he may prescribe, such area or areas of the public domain along the line or lines of such proposed railroad or railroads for townsite purposes as he may from time to time designate.

"That all moneys derived from the lease, sale, or disposal of any of the public lands, including townsites, in Alaska, or the coal or mineral therein contained, or the timber thereon, and the earnings of said railroad or railroads, together with the earnings of the telegraph and telephone lines constructed under this act, above maintenance charges and operating expenses, shall be paid into the Treasury of the United States as other miscellaneous receipts are paid, and a separate account thereof shall be kept and annually reported to Congress."

The law with respect to this townsite provision was made effective by Executive order of June 19, 1915, which is here quoted:

"Under and pursuant to the provisions of the act of Congress, approved March 12, 1914 (38 Stat., 305), entitled 'An act to authorize the President of the United States to locate, construct, and operate railroads in the Territory of Alaska and for other purposes,' it is hereby ordered that the administration of that portion of said act relating to the withdrawal, location, and disposition of townsites shall be in accordance with the following regulations and provisions, to wit:

### "REGULATIONS.

"*Reservations.*—The Alaskan Engineering Commission will file with the Secretary of the Interior, when deemed necessary, its recommendations for the reservation of such areas as in its opinion may be needed for townsite purposes. The Secretary of the Interior will thereupon transmit such recommendations to the President with his objections thereto or concurrence therewith. If approved by the President, the reservation will be made by Executive order.

"*Survey.*—When in the opinion of the President the public interests require a survey of any such reservation, the Secretary of the Interior shall cause to be set aside such portions for railroad purposes as may be selected by the Alaskan Engineering Commission, and cause the remainder, or a part thereof, to be surveyed into urban or suburban blocks and lots of suitable size, and into reservations for parks, schools, and other public purposes and for Government use. Highways should be laid out, where practicable, all along shore lines, and sufficient land for dock and wharf purposes along such shore lines should be reserved in such places as there is any apparent necessity therefor. The plats of such survey will be prepared in triplicate, one for the General Land Office, to be on tracing linen, one for the local land office, and one for the recorder of the proper recording district. The survey will be made under the supervision of the Commissioner of the General Land office and the plats will be approved by him and by the chairman of the Alaskan Engineering Commission.

"*Public sale.*—The unreserved lots will be offered at public outcry to the highest bidder at such time and place, and after such publication of notice, if any, as the Secretary of the Interior may direct, and he may appoint or detail some suitable person as superintendent of the sale to supervise the same, and may fix his compensation and require him to give sufficient bond.

"*Superintendent's authority.*—Under the supervision of the Secretary of the Interior, the superintendent of the sale will be, and he is hereby authorized to make all appraisements of lots and at any time to reappraise any lot which in his judgment is not appraised at the proper amount, or fix to a minimum price for any lot below which it may not be sold, and he may reject any and all bids for any lot and at any time suspend, adjourn, or postpone the sale of any lot or lots to such time and place as he may deem proper.

"*Manner.*—Bids may be made either in person or by agent, but not by mail nor at any time or place other than the time and place when the lots are offered for sale hereunder, and any person may purchase any number of lots for which he is the highest bidder. Bidders will not be required to show any qualifications as to age, citizenship, or otherwise. If any successful bidder fails to make the payment and file the application and other papers at the time and in the manner hereinafter required, the lot awarded to him may be reoffered for sale, and his right thereto will be forfeited. Nothing herein will prevent the transfer by deed of the interests secured by the purchase and the partial payment for the lot, but the assignee will acquire no greater right than that of the original purchaser, and the final entry and patent will issue to the original purchaser when all payments are made.

"No lot will be sold for less than $25, and no bid exceeding that amount will be accepted unless made in multiples of $5, the minimum of $25 on each lot sold for less than $75 must be paid in cash within the time hereinafter specified, and if the price bid is $75 or more, one-third of the bid price must be paid in cash within said specified time; the remainder of the purchase price will be divided into five equal annual installments, payable in one, two, three, four, and five years, respectively, from the date of the register's certificate of sale, and no final certificate of entry will be issued until the expiration of said five years and until payment has been made in full for the lot, and no patent will be issued thereon during said period. The successful bidder will be given by the superintendent of sale a memorandum certificate for identification purposes, showing name and address of bidder, lot, and amount of bid, and the bidder must file it with the superintendent of sale before the close of the next succeeding sale day, or the next business day if bid is accepted on last sale day, together with his application to purchase the lot properly filled, signed, and acknowledged before any officer authorized to administer oaths and using an official seal, and accompanied by the cash payment required by these regulations, all on the forms attached hereto, respectively, and hereby approved and made a part of these regulations.

"The superintendent of sale will issue a memorandum receipt to the bidder for the money paid, describing the lot purchased, and he will as soon thereafter as possible deposit with the receiver of the proper local land office the money received, and file with its officers the papers deposited with him by said bidder, together with his certificate as to successful bidder. Thereupon, if no objection appears, the register will issue his certificate of sale in duplicate and transmit the duplicate copy to said bidder.

"If it be deemed advisable, the Commissioner of the General Land Office may direct the receiver of public moneys, of the proper district, to attend sales herein provided for, in which event the cash payment required shall be paid to said receiver who will issue his official receipt therefor, in lieu of the memorandum receipt of the superintendent of sale.

"*Conditions and forfeitures.*—If any lot or lots sold or any part thereof shall be used for the prupose of manufacturing, selling, or otherwise disposing of intoxicating liquors as a beverage, or for gambling, prostitution, or any unlawful purpose before final payment is made, and during a period of five years from the date of register's certificate of sale, or if the purchaser shall fail during said period to comply with any and all regulations and requirements which the Secretary of the Interior, in his discretion may make or authorize to be made, for the improvement of streets, sidewalks, and alleys, promotion of sanitation and fire protection in the townsite, all rights of the applicant under his purchase of said lot or lots shall terminate and a forfeiture thereof and of the payments theretofore made thereon may be declared by the Secretary of the Interior, and his finding of fact thereon shall be final. If any person who has made partial payment on the lot purchased by him fails to make any succeeding payment required under these regulations at the date such payments become due, the money deposited by such person for such lot will be forfeited, and the lot, after forfeiture is declared, will be subject to disposition as provided herein. Lots remaining unsold at the close of sale, or thereafter declared forfeited for nonpayment of any part of the purchase price under the terms of the sale, will be subject to future disposition at public sale at such time and place as may thereafter be provided.

"*Warning.*—All persons are warned against forming any combination or agreement which will prevent any lot from selling advantageously, or which will in any way hinder or embarrass the sale, and all persons so offending will be prosecuted under section 2373 of the Revised Statutes of the United States, which reads as follows:

" 'Every person who, before or at the time of the public sale of any of the lands of the United States, bargains, contracts, or agrees, or attempts to bargain, contract, or agree, with any other person, that the last-named person shall not bid upon or purchase the land so offered for sale, or any parcel thereof, or who by intimidation or unfair management hinders or prevents, or attempts to hinder or prevent, any person from bidding upon or purchasing any tract of land so offered for sale, shall be fined not more than one thousand dollars or imprisoned not more than two years or both.' "

Upon the basis of the law and this order, on December 28, 1916, Secretary Lane issued the following order:

"The CHAIRMAN OF THE ALASKAN ENGINEERING COMMISSION.

"SIR: Upon your recommendation, the Alaskan Engineering Commission is hereby authorized to expend, from appropriations made for the construction and operation of railroads in Alaska, such sums as may be necessary in the judgment of the commission for the maintenance of school facilities for children of its officers and employees, in unincorporated towns on the line of the Government railroad, until sufficient funds are available for school purposes in those towns through contributions from Territorial funds or other sources. You are advised that the temporary authorization given in my telegram of November 15, 1916, was intended to include the payment of expenses incurred for school purposes during the several months prior to that date."

Further regulations concerning town sites were promulgated by the chairman of the commission April 12, 1916, here quoted:

### "ORDER.

"By virtue of authority vested in me by the Executive order of April 10, 1915, there is hereby created a land and industrial department of this commission, which department will have entire charge, under the immediate supervision of the chairman, of the following subjects:

"(1) Encouragement of the development of the natural resources tributary to the railroad by bringing about a closer cooperation between the merchants, miners, and the farmers.

"(2) Dissemination of information to the public relating to the construction and operation of the railroad, and to furnish the public reliable information on the natural resources and possibilities tributary to the railroad.

"(3) All questions involving the purchase of lands and improvements thereon owned and controlled by the commission.

"(4) All matters relating to real estate and land improvements thereon owned and controlled by the commission.

"(5) The withdrawal of lands of the United States for town site and railroad purposes.

"(6) The designation of land for town site and other purposes.

"(7) Cooperation with the General Land Office in the surveying of town sites.

"(8) The reservation of lots and blocks within town sites for public purposes.

"(9) The appraisal and sale of lots under the Alaskan Railroad Town site Regulations.

"(10) The management of towns after the sale of lots and all matters incidental thereto.

"(11) The leasing of lands under the control of the commission.

"(12) Restoration to entry to any and all lands which may have been withdrawn for townsite or railroad purposes.

"(13) Creation of timber reservations and the elimination of lands from such reservations.

"(14) Any changes in the public land laws and regulations thereunder.

"(15) Any changes in the town-site laws and the regulations thereunder.

"(16) All legal questions involved in any of the above subjects, and such questions of law as maybe referred to it by the chairman.

"All matters relating to the above subjects will be referred to the land and industrial department for consideration and appropriate action, and such matters as involve major questions of policy and procedure shall receive the approval of the chairman.

"The headquarters of this department will be at Seward, Alaska, and the head thereof will report directly to the chairman."

On October 25, 1918, the President promulgated Executive Order No. 2982, next quoted:

"ALASKA.—MODIFICATION OF RAILROAD TOWN SITE REGULATIONS.

"It having been made to appear to me that, as a result of conditions produced by the war in which this country is now engaged, it will be for the best interests of the Territory of Alaska, of certain towns in said territory hereinafter named, and of the railroad now under construction by this Government in that territory, that the time or times fixed and prescribed by administratives regulations for the payment of certain portions of the purchase money due or to become due on lots in said named towns, which have been heretofore sold in accordance with said regulations, shall be enlarged and extended:

"Now, therefore, in and by virtue of the authority vested in me by the act of Congress of March 12, 1914 (38 Stats., 305) entitled 'An act to authorize the President of the United States to locate, construct, and operate railroads in the Territory of Alaska, and for other purposes,' I do hereby order and direct that all lot payments falling due in August, 1918, and all lot payments falling due subsequent to August, 1918, in the towns of Anchorage, Matanuska, Nenana, and Wasilla, and in any additions thereto, be and the same are hereby extended for the period of one year from the date when the same became or become due. Lot payments in said towns falling due prior to August 1, 1918, are not hereby extended. Executive Order No. 2214, issued June 19, 1915, and all other orders conflicting herewith are hereby modified to conform with this order."

Mr. McPherson. With your permission I will include in the record copies of letters of resignation of Col. F. Mears, and Thomas Riggs, jr., and copies of acceptance of the resignations of Col. F. Mears and Thos. Riggs, jr.:

Anchorage, Alaska, *June 4, 1917.*

Hon. Franklin K. Lane,
*Secretary of the Interior, Washington, D. C.*

My Dear Mr. Secretary: I have the honor to offer my services to the War Department, in connection with the war with Germany, in such capacity as may be desired.

As you are aware, I am an officer on the active list of the United States Army, assigned to duty with the Interior Department as a member of the Alaskan Engineering Commission, under authority of joint resolution of Congress, and am now occupied on the construction of the new Government railroad in Alaska.

I have been engaged exclusively for the past 11 years in work as a civil engineer; for 8 years with the Panama Railroad, on the Isthmus of Panama, under Gen. Goethals, and for the past 3 years in my present assignment.

If my experience in railroad construction, operation, and maintenance of way would be of any value to the Government in connection with any of the new Reserve Engineer Corps regiments, now being organized for duty in France, or if my services are otherwise desired, I wish to be considered as available for immediate assignment to duty.

I am, sir,

Very respectfully,

F. Mears,
*Member, Alaskan Engineering Commission.*

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Department of the Interior,
Alaskan Engineering Commission,
*Washington, D. C., January 28, 1918.*

My Dear Mr. Secretary: It is with genuine regret that I tender my resignation as a member of the Alaskan Engineering Commission, effective January 31, in order that I may go back to active duty with the Army.

My service with the Interior Department during the past three and a half years has been one of the pleasantest experiences of my life. The Alaskan Railroad project has been administered with regard only for efficiency and justice, and I have always been proud to be a small part of your department in a country where the very name Franklin K. Lane stands for everything that is wise and right and just.

With this sincere expression of my esteem, believe me to be

Very cordially, yours,

F. Mears.

Hon. Franklin K. Lane,
*Secretary of the Interior, Washington, D. C.*

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January 28, 1918.

Dear Col. Mears: I have your letter of January 28, tendering your resignation, effective at the close of business January 31, 1918, as a member of the Alaskan Engineering Commission, in view of your active return to the Army.

I accept it with regret, but also with an appreciation of the fact that in returning to duty with troops at this time your abilities and experience become of even larger value to the country. You leave our service with the respect and esteem of all of your associates on the Alaska Railroad work, and with the knowledge on their part that the opportunities that will be offered you for larger service will be grasped by you in the ready and thorough manner that has characterized your services on the commission.

With every good wish for the future, I am,

Cordially, yours,

Franklin K. Lane.

Col. Frederick Mears,
*Washington, D. C.*

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Department of the Interior,
Alaskan Engineering Commission,
*Washington, April 15, 1918.*

My Dear Mr. Secretary: I hereby tender my resignation as a member of the Alaskan Engineering Commission, to be effective upon my assuming the duties of governor of Alaska.

At this time I wish to express to you the pleasure I have taken in working under your direction, and my great appreciation of you personally. I can not leave the commission except with regret, for I am bound up heart and soul in the desire to make our railroad a success.

Perhaps in my new position I may be able materially to aid in your constructive policies for Alaska, and in so doing reflect a little credit upon myself.

I want my first effort to be toward patriotism and charity. All else, to my mind, at present sinks to insignificance.

Cordially, yours,

Thomas Riggs, Jr.,
*Member of Commission.*

Hon. Franklin K. Lane,
*Secretary of the Interior, Washington, D. C.*

APRIL 17, 1918.

DEAR MR. RIGGS: By direction of the President, your resignation as a member of the Alaskan Engineering Commission is hereby accepted, effective when you enter on duty as Governor of Alaska under your recent appointment.

In notifying you of this action I desire to express my appreciation of the manner in which you have performed your duties during the past four years and of the cordial support which I have received from you. You have my very best wishes for the success that I anticipate will be yours in your new field of endeavor.

Cordially, yours,

FRANKLIN K. LANE.

Mr. THOMAS RIGGS, *Juneau, Alaska.*

(Thereupon, at 12.30 p. m., the committee took a recess until 3.30 o'clock p. m.)

## AFTER RECESS.

The committee met at 4.45 p. m., pursuant to the taking of a recess, Hon. Charles F. Curry (chairman) presiding.

The CHAIRMAN. The prime need of Alaska is what, and what are the values of the mineral products found in that Territory that can be profitably mined, under proper conditions, Mr. McPherson?

Mr. MCPHERSON. Alaska's growth and prosperity is dependent, like all other countries, on people—men and women who will be attached to the country by home and business ties. The country has proven so rich in natural resources, both of the land and sea, as to assume a strong and stable population, but such a people will only be attracted to Alaska through a policy of encouragement.

The adoption of a broad constructive policy that will make for the rational development of Alaska, through the peopling of the country by men and women equipped to combat the trials and hardships of the northern frontier, and such a people attached to Alaska by home and business ties is the only foundation on which may be built a prosperous and progressive Northland that will be of a source of strength to the Nation.

The early inauguration of such a policy is the goal to which all true friends of Alaska should persistently labor.

*Alaska commerce in 1918.*

| | |
|---|---|
| Imports | $41,625,564 |
| Exports | 85,423,568 |
| Total | 127,049,132 |

Alaska commerce, 1867–1918, $1,295,229,055.

*Value Alaska products.*

| | 1917 | 1918 | 1867-1918 |
|---|---|---|---|
| MINERALS. | | | |
| Gold | $14,657,353 | $10,000,000 | $302,758,009 |
| Copper | 24,240,598 | 17,180,000 | 105,824,470 |
| Silver | 1,021,060 | 870,000 | 5,620,466 |
| Tin | 114,462 | 98,343 | 792,657 |
| Lead | 146,584 | 60,256 | 429,604 |
| Antimony | 8,973 | 184 | 217,157 |
| Tungsten | 19,550 | 11,000 | 85,420 |
| Chrome ore, palladium, and platinum | ............ | 106,000 | 106,000 |
| Coal | 265,317 | 435,000 | 1,121,150 |
| Marble, gypsum, petroleum, etc | 217,990 | 120,000 | 2,263,861 |
| Total | 40,691,887 | 28,880,783 | 419,218,794 |
| FISH PRODUCTS. | | | |
| Salmon | 47,778,081 | 53,277,720 | 316,201,463 |
| Halibut, cod, herring, etc | 2,571,677 | 4,374,850 | 21,055,743 |
| Clams, crabs, shrimps, etc | 278,101 | 218,923 | 573,695 |
| Fertilizer and meal | 144,033 | 168,552 | 1,252,613 |
| Oil | 689,588 | 846,362 | 7,021,482 |
| Whalebone | 5,500 | 1,644 | 1,446,737 |
| Total | 51,466,980 | 58,888,051 | 347,551,733 |
| FURS AND SKINS. | | | |
| Sealskins | 274,200 | 924,570 | 52,588,600 |
| All other furs | 1,064,399 | 1,277,350 | 26,604,270 |
| Total | 1,338,599 | 2,201,920 | 79,192,870 |
| MISCELLANEOUS. | | | |
| Wood, curios, etc | 91,619 | 255,885 | 1,756,011 |
| Grand total | 93,589,085 | 90,226,639 | 847,719,408 |

Alaska has produced double the value received.

*Alaska's wealth of resources.*

Gold placers and lodes are to be found throughout all sections of Alaska, where gold is probably more universally distributed than in any other country of the world.

Copper production in 1917 again exceeded all other mineral output. Alaska's copper deposits are among the world's greatest.

Tin, both in lode and placer deposits, is being profitably mined. Alaska has the only tin mines on the continent.

Antimony is found in widely separated regions.

Iron in large deposits and of good grade has been discovered in numerous localities, assuring an important industry.

Lead, graphite, cinnabar, palladium, platinum, and molybdenum have been discovered and are being developed.

Marble that rivals that of Vermont, both in quantity and quality, is being extensively quarried in the Prince of Wales Island region and furnishes interior decoration for office buildings in many of our western cities.

Gypsum and barytes are other nonmetallic mineral resources of Alaska that are being profitably mined.

Coal deposits, ranging in grade from lignite to anthracite, are of greater area than were originally contained in the State of Pennsylvania, and we know geologically only about 40 per cent of Alaska.

Mineral oil is being produced and refined from the one claim patented. No further development of this industry is now possible, as all oil-bearing lands are reserved from entry. Discoveries of mineral oil have been reported in widely separated areas. Five oil fields are known.

Fishing is one of Alaska's greatest industries. The production in 1918 exceeded the combined output of British Columbia and the States of Washington, Oregon, and California. The continental shelf extending off the south coast of Alaska and the Aleutian Islands is a more extensive fishing area than that of any other country.

Reindeer in Alaska now number in excess of 140,000 and assure an important source of national food supply.

Agriculture in Alaska is to-day a practical reality and is each year showing larger gains. Probably a thousand families are to-day securing part or all of their income from agricultural pursuits. It is estimated that Alaska contains 100,000 square miles of arable lands.

Timber. The spruce forests of southeastern and southern Alaska will furnish the supply for a large paper-pulp industry.

Water power is available in such quantity as to assure for the northland a great industrial development.

Scenery unsurpassed by any country in the world assures a future tourist travel of vast proportions.

The CHAIRMAN. You were asked yesterday in reference to the extent of the coal fields in Alaska. Are you prepared at the present time to place in the record a statement in reference to the coal fields in the Territory and a comparison of the Alaska and British Columbia Coal Land laws?

Mr. McPHERSON. In 1917 in an effort by the Alaska Bureau of the Seattle Chamber of Commerce to secure such modification of the present coal-land lease law applicable to Alaska as would encourage development I assembled data which I believe will prove of value to this committee. With your permission I will insert this data.

(The matter referred to follows:)

### AREA AND TONNAGE ALASKA COAL FIELDS.

[From U. S. Geological Survey Bulletin 442, 1910. By Alfred H. Brooks.]

In considering the above table (tonnage estimates of Alaska) it must be remembered that these estimates cover only the 1,202 square miles of coal lands, namely, that part of the coal fields which, with a reasonable degree of certainty, is believed to be underlain by workable coal beds. No allowance whatever is made for the remainder of the 12,667 square miles, which are mapped as coal fields. The possibilities of finding coal in the unsurveyed districts (about 80 per cent of the area) are also ignored. Evidently, therefore, if the same acre tonnage holds throughout the coal fields, these estimates should be multiplied by ten. Again, the discovery of new coal fields will add to the tonnage. It is therefore probably safe to say that the minimum estimate of Alaska's coal resources should be placed at 150,000,000,000 tons and that the actual tonnage may be many times that amount. These figures indicate coal resources far in excess of the original coal supply of Pennsylvania. It must be remembered, however, that over half the Alaska coal is lignite, while all of the Pennsylvania coal is of a high grade.

For report in full see Appendix.

### OUR MINERAL SUPPLIES—COAL.

[From U. S. Geological Survey Bulletin 666-P. By G. C. Martin.]

The coal of Alaska, which occurs in many parts of the Territory and which includes many grades ranging from lignite to anthracite, should be grouped in a consideration of possible development into the fields that are or can be made immediately accessible and the fields that are remote or inaccessible. A further grouping should be made on the basis of the adaptability of the coal for special uses.

The coal fields that are now or can soon be made accessible include those of the Pacific seaboard and the Nenana field, which will be accessible both to the coast and to the placer camps of the Tanana Valley when the Government Railroad is completed. The other coal fields of the interior and northern part of Alaska can be developed in the near future only for minor local use. The accessible coal fields of the Pacific seaboard include the Matanuska field, with high-grade steam and coking coal and low-grade bituminous coal, which is now accessible by the Matanuska branch of the Government Railroad; the Bering River field, with high-grade steam, smithing and possibly coking coal, as well as anthracite (mostly crushed), which can be made accessible by the completion of a short railroad, now under construction;[1] the Cook

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[1] The railroad that is now under construction from Controller Bay will, according to present information reach only the patented coal claim in the eastern part of the Bering River field and will not furnish access to the high-grade steam and coking (?) coal in the central and western part of the field. There would be no difficulty, however, in extending the railroad into those areas.

Inlet field, with lignite, which is situated on tidewater and is therefore now accessible; and several small fields in southwestern Alaska, with coal of various grades ranging from lignite to bituminous, possibly including some coking coal, some of which are on tidewater and now accessible and the rest of which can be made accessible by the construction of short railroads. Of these coast fields only Matanuska and Bering River contain large amounts of coal of the quality for which there is likely to be an immediate demand. The Nenana field, in the interior, although containing coal of lower grade (lignite), will probably soon be developed on a small scale because of urgent local demand.

The possible immediate markets for Alaska coal are indicated as follows:

Eastern Matanuska (Chickaloon) field: Coke for Alaska smelters; coke for Puget Sound (if relative costs permit competition); bunker coal (Alaska steamers); Navy coal (if relative costs permit competition with coal from Bering River and Chesapeake Bay); smithing coal (local and export).

Western Matanuska (Moose and Eska Creek) field: Locomotive fuel[1] (Chickaloon to Seward); local power (Willow Creek mines); domestic fuel in Anchorage, Seward, Valdez (?) and Cordova (?); locomotive fuel on Copper River Railroad (if Bering River branch is not built).

Nenana field: Locomotive fuel (Matanuska Junction[2] to Fairbanks); power and thawing (mines in Tanana Valley); domestic fuel (Tanana Valley); river boat fuel.

Bering River field: Locomotive fuel (Controller Bay Railroad); locomotive fuel on Copper River Railroad (if Bering River branch is built); coke for Alaska smelters (if competition with Matanuska coke permits); bunker coal (Alaska steamers); Navy coal (if competition with coal from Chesapeake Bay permits); smithing coal (local and export); domestic fuel in Cordova and Valdez (if Bering River branch is built).

None of the uses indicated above calls for a large quantity of coal, and there will probably be no physical difficulty in developing the mines within a few months after the time when transportation is available to a sufficient extent to supply the present demands. In fact, it is probable that the most serious difficulty will be that of finding a sufficient market to justify the opening of the mines on a scale large enough to permit the coal being mined and shipped at a profit.

It is public policy rather than any reasonable hope of even moderately private profit that calls for the development of the Alaska coal fields on a large scale. The reasons for the present urgent need of developing the coal fields are as follows:

1. To provide fuel for the Alaska railways.
2. To furnish the Alaska railways with the freight without which they can not be operated save at a loss.
3. To furnish cheap fuel for the Alaska mines and towns in order that the production of other necessities may be encouraged.
4. To furnish bunker coal for Alaska steamers, so that they may not be compelled to use cargo space in carrying fuel for the return voyage (on the assumption that other demands for California oil will be so great that the Alaska steamers can advantageously use local coal rather than California oil).
5. To provide coke for local smelters so that cargo space may be saved by shipping metal rather than ore and that the development of new metalliferous mines may be encouraged.
6. To provide a quickly accessible reserve of high-grade fuel for the Navy or for other urgent need.

In conclusion, although there are no difficulties (given transportation and a market) that will prevent the quick development of the few small mines that can supply the demands that can be foreseen at present, the opening of the coal fields on a large scale is quite a different problem. The development of a large coal mine requires considerable time, even under favorable circumstances. In Alaska it is not merely a simple matter of expanding the workings to a point where there is room for enough miners to produce the required tonnage. This must be done, but first there must be a slow process of prospecting, drilling, and experimental mining in order to determine where the coal for a large mine is to be found and what the method of working the mine is to be. These problems have not yet been solved in the Alaska coal fields, and consequently there is no assurance that a large tonnage of high-grade coal could be quickly obtained for the Navy or for other emergency use. This condition, in the writer's opinion, requires not only that the small mines which can supply the present demand should be opened at once, but that every possible encouragement should be given for the development of the Alaska coal industry.

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[1] The lower grade coal from the western part of the field should be used for locomotive and power plant fuel, because the high-grade (Chickaloon) coal is too valuable for this purpose.

[2] Nenana coal should be used on the greater part of the railroad (rather than the better and nearer Matanuska coal), because the heavy freight traffic will be northbound, leaving southbound empties available for hauling coal.

### *Coal consumed in Alaska, 1899 to 1916, in short tons.*

[From U. S. Geological Survey Bulletin 662-A.]

| Year. | Imported from States, chiefly bituminous, from Washington. | Produced in Alaska, chiefly subbituminous and lignite. | Total domestic, chiefly from Washington. | Total foreign coal, chiefly bituminous, from British Columbia.[1] | Total coal consumed. |
|---|---|---|---|---|---|
| 1899 | 10,000 | 1,200 | 11,200 | 50,120 | 61,320 |
| 1900 | 15,048 | 1,200 | 16,248 | 56,623 | 72,871 |
| 1901 | 24,000 | 1,300 | 25,300 | 77,674 | 102,974 |
| 1902 | 40,000 | 2,212 | 42,212 | 68,363 | 110,575 |
| 1903 | 64,626 | 1,447 | 66,073 | 60,605 | 126,678 |
| 1904 | 36,689 | 1,694 | 38,383 | 76,815 | 115,198 |
| 1905 | 67,713 | 3,774 | 71,487 | 72,567 | 144,054 |
| 1906 | 69,493 | 5,541 | 75,034 | 47,590 | 122,624 |
| 1907 | 46,246 | 10,139 | 56,385 | 88,596 | 144,981 |
| 1908 | 23,893 | 3,107 | 27,000 | 72,831 | 99,831 |
| 1909 | 33,112 | 2,800 | 35,912 | 74,316 | 110,228 |
| 1910 | 32,138 | 1,000 | 33,138 | 73,904 | 107,042 |
| 1911 | 32,255 | 900 | 33,155 | 88,573 | 121,728 |
| 1912 | 27,767 | 355 | 28,122 | 59,804 | 87,926 |
| 1913 | 61,666 | 2,300 | 63,966 | 60,600 | 124,566 |
| 1914 | 41,509 | ............ | 41,509 | 21,883 | 63,391 |
| 1915 | 46,329 | 1,400 | 47,729 | 36,878 | 84,607 |
| 1916 | 44,934 | [2] 12,200 | 57,134 | 36,454 | 93,588 |
| | 717,418 | 52,569 | 769,987 | 1,124,195 | 1,894,182 |

[1] By fiscal years ending June 30.
[2] Estimated. About 75 per cent of this production is bituminous.

### *Petroleum products shipped to Alaska from other parts of the United States, 1905-1916, in gallons.*

[From U. S. Geological Survey Bulletin 662-A.]

| Year. | Oil used for fuel, including crude oil, gas oil, residuum, etc. | Gasoline, including all lighter products of distillation. | Illuminating oil. | Lubricating oil. |
|---|---|---|---|---|
| 1905 | 2,715,974 | 713,496 | 627,391 | 83,319 |
| 1906 | 2,688,940 | 580,978 | 568,033 | 83,992 |
| 1907 | 9,104,300 | 636,881 | 510,145 | 100,145 |
| 1908 | 11,891,375 | 939,424 | 566,598 | 94,542 |
| 1909 | 14,119,102 | 746,930 | 531,727 | 85,687 |
| 1910 | 19,143,091 | 788,154 | 620,972 | 104,512 |
| 1911 | 20,878,843 | 1,238,865 | 423,750 | 100,141 |
| 1912 | 15,523,555 | 2,736,739 | 672,176 | 154,565 |
| 1913 | 15,682,412 | 1,735,658 | 661,656 | 150,918 |
| 1914 | 18,601,384 | 2,878,723 | 731,146 | 191,876 |
| 1915 | 16,910,012 | 2,413,962 | 513,075 | 271,981 |
| 1916 | 23,555,811 | 2,844,801 | 732,369 | 373,046 |
| | 170,814,799 | 18,254,611 | 7,165,038 | 1,794,714 |

## DEVELOPMENT URGED AS A WAR NECESSITY.

[Statement of Mr. Francis S. Peabody, chairman of the Committee on Coal Production, National Council of Defense. From hearings before the Committee on Public Lands, United States Senate, June 13, 1917.]

Mr. PEABODY. Both are fuel (coal and food); one human fuel and the other is machine fuel. Any laws that can be passed that will loosen up the reserve fuel and oil supplies of Alaska and the west coast should be adopted. We can not wait until we are whipped to open up those fields. We are sending our sons now; we are not sending them three, four, or five years from now; we must protect those sons; we must win this war; we can not win this war unless we utilize every process available. If it exhausted the coal of the United States or the oil of the United States to win this war, we must win this war. We must not hold back anything.

The west coast is in tremendous difficulties—is in the same situation as northeastern Canada in regard to the loss of men. The coast can only be supplied either from northwestern Canada or from the oil fields of California and the coal fields of the Rocky Mountains. The oil production is falling off very seriously in the West.

I think of oil mainly as tons of coal. If I say a falling off of 9,000,000 barrels of oil, I figure that 3,000,000 tons of coal have gone by the wayside. When I find an oil well can be drilled—and I have drilled them myself by the use of four or eight men—and possibly we might get 3,000 barrels of oil out of that well, meaning 1,000 tons of coal, and do it within 60 days, and I know it would take from 12 to 18 months, using 200 or 250 men, to develop any coal mine to the production of 1,000 tons of coal, and so I believe the emergency warrants the Government in using any possible means to get that thousand tons of fuel a day, whether it be in the nature of 3,000 barrels of oil or 1,000 tons of coal, out at any sacrifice.

* * * * * * *

Senator WALSH. What drain is the Pacific coast making upon the Atlantic coast?

Mr. PEABODY. The drains are that we are shipping every ton of coal we can possibly send via the Panama Canal to the west coast, and in addition to that we are supplying the Navy, and the coal shipped all rail takes, I think, 92 days' average time for a car to go from the Norfolk & Western or the Chesapeake & Ohio fields to California and return. It is a most horrible misuse of equipment that we need so badly for other purposes. The Southern Pacific wants 60,000 or 70,000 tons of coal a month. These papers came to me from the National Council of Defense. They asked me could I supply it; I mean by "I" whether the committee could supply it. I said, "No; it is impossible to supply that coal unless we take it from industries in which it is indispensable." We can, if we shut down possibly the steel mills in Colorado, if we shut down a great many industries that are large burners of coal, we could probably take that away from them and furnish it to the Southern Pacific.

Senator PHELAN. Why is the Southern Pacific using coal? They have oil burners?

Mr. PEABODY. But they can not get enough oil. Oil has fallen off in its production immensely.

The CHAIRMAN. What, in your opinion, would be the result if we should take up no new system and go on in the same old way and develop no more coal or oil than we are developing now?

Mr. PEABODY. Why, from the oil standpoint we would be out of reserve oil in the United States within 12 months, and we would be producing approximately 50,000,000 barrels of oil—leaving out the Mexican supply, assuming that everything remained normal—50,000,000 barrels of oil per year less than needed.

The CHAIRMAN. Do you think we are producing enough coal and oil now to win the European war?

Mr. PEABODY. No, sir.

The CHAIRMAN. If we can not increase our production we can not win the war?

Mr. PEABODY. Yes, sir.

Senator PHELAN. If more oil is developed in California, it will release these cars for transportation.

Mr. PEABODY. It goes without saying that the more you can produce nearer the point of consumption the less transportation you are going to use, Senator Phelan.

Senator PHELAN. How extensive is the shipment of coal you describe from the east to the west coast by rail?

Mr. PEABODY. The shipment from the east to the west coast by rail, the only coal that is going is for battleships.

Senator PHELAN. And that at a great cost?

Mr. PEABODY. At a terrific cost. I located 8,000 tons of coke the other day. I have not been able to find out who it is going to, but 8,000 tons of coke going to California from the West Virginia field. It struck me when I saw that, "Why did they not take the coke from farther west; why did they not get the coke from Colorado?" Everything that I see that takes a car longer to accomplish its appointed task of taking its load of fuel to the consumer hits me in the face and I want to stop it, and when I saw this 8,000 tons of coke going from the West Virginia fields to San Francisco I wanted to find out why they could not take it from a point nearer the point of consumption, as you say.

Senator PHELAN. And it does not go by ship because there are no ships?

Mr. PEABODY. Well, we have no ships.

Senator PHELAN. There is a collier now in European waters, was it not so reported the other day, that can not get home?

Mr. PEABODY. That may be. I am loading this week five ships which the Government allotted to the Italian Government with coal.

Senator WALSH. You say some coal is going by way of the canal?

Mr. **Peabody**. Yes, Senator; some coal is going by the canal. But you should develop your coal and oil lands in Alaska, and you should develop your oil lands in every Western State.

Senator **Shafroth**. Mr. Peabody, we passed an act here three or four years ago opening up the coal lands of Alaska under a leasing system. Do you know how much coal has been produced in Alaska under that?

Mr. **Peabody**. Very little under the leasing privilege. The Alaskan coals are the most speculative field we have on account of the great disturbances of the veins. They are at all angles, and we go into a coal mine, for instance, I have forgotten the tract number, but where a lava dip comes in and cuts the coal out entirely, and no man in a commercial business is going to take a chance unless he can secure a lease or a purchase on some basis that is going to warrant his putting his money in. I have been studying these Alaskan coal leases. I see nothing particularly wrong in them, except they limit the territory to such a small area that no man can put the proper development in.

## SUMMARY OF LAW AND REGULATIONS GOVERNING COAL-LAND LEASE IN THE TERRITORY OF ALASKA.

Qualified parties may lease coal lands in Alaska in area not to exceed 2,560 acres, lessees disqualified from holding interest in any other coal lands in Alaska.

No prospecting privilege.

Annual rental 25 cents per acre for the first year, 50 cents per acre for the second, third, fourth, and fifth years, and a dollar per acre for each succeeding year during the life of the lease.

Royalty 2 cents on every ton of coal shipped or removed from land during the five years of lease, and 5 cents per ton for the next 20 years.

An expenditure of $20 per acre per year required by lessees during first five years of lease; bond required in one-half of the amount of expenditure for each year.

## SUMMARY OF BRITISH COLUMBIA LAW TO ENCOURAGE COAL MINING.

Prospecting licenses granted for 640 acres upon payment of $100 and expenditure of $50 per year, which can be extended for three years on like terms. Any number of license holders, not exceeding 10, can enter into partnership and group their claims. The $50 exploratory work required for each claim can be done on any one of the claims so grouped.

Upon discovery of coal, lease can be obtained for a term of five years at an annual rental of 15 cents per acre.

Upon a satisfactory showing of work, lessees shall be entitled to purchase said lands, including the coal, petroleum, and natural gas thereunder, at the rate of $20 per acre.

## ALASKA AND BRITISH COLUMBIA COAL-LAND LAWS COMPARED.

| *Alaska.* | | *British Columbia.* | |
|---|---|---|---|
| Maximum area | 2,560 acres | Maximum area | 6,400 acres |
| Prospecting privilege | None | Prospecting privilege | 3 years |
| | | Fees and expenditures, per yr., per acre, about | 23c |
| Lease privilege: | | Lease privilege | 5 years |
| Rental, 1st yr., per acre | 25c | Fees and expenditures per yr., per acre, about | 23c |
| 2d, 3d, 4th and 5th yr., acre | 50c | Rental, per yr., per acre | 15c |
| Royalty, 1st 5 yrs., per ton | 2c | | |
| Next 20 yrs., per ton | 5c | | |
| Expenditure, 1st 5 yrs., per acre, per year | $20.00 | | |
| Bond required in half amount. | | | |
| Purchase | No right | Purchase, per acre | $20.00 |

## NOT STRANGE.

[Editorial from Alaska Daily Empire, Juneau, Alaska, Nov. 27, 1917.]

It is not strange that Cordova, Valdez, and Seward are unanimous in their desire that the terms of the Walsh bill should be made applicable to Alaska. These towns are among those most directly interested in the development of Alaska coal and oil fields. The Walsh bill is designed to promote the development of the coal and oil lands of the States, and the same economic laws that obtain in the States also operate in Alaska. There is absolutely no reason that could be urged for the Walsh plan in the States that would not apply to the situation in Alaska.

Further than that, the resources of Alaska are not valuable to the Government from a landlord's standpoint. They are only valuable to the Government and the people of the United States when utilized and giving profitable employment to men and women, who thereby are given opportunity to add to the producing and consuming power of the country and to the volume of its industry and trade. Alaska is most valuable to the States in the market which she affords for $30,000,000 or more of their products and the gold, foodstuffs, and other products which she sends them for their use. Every year that Alaska's resources are kept locked up, therefore, is a year of waste.

Mr. McPherson. From the above comparisons it is apparent that we must modify the present coal-land lease laws if we are to encourage development. Not advocating in any way any extreme change, it should be possible to find a mid-ground between the extremes of the Alaska and British Columbia laws that will encourage development and safeguard against monopoly.

The Alaskan Engineering Commission originally appointed by the Secretary of the Interior was composed of William C. Edes, Col. Frederick Mears, United States Army, and Thomas Riggs, jr.

Mr. McPherson. Yes, sir.

The Chairman. Now, I understand that Mr. Edes is a railroad engineer?

Mr. McPherson. He is.

The Chairman. What was his address; where did he live?

Mr. McPherson. In California.

The Chairman. In California; he was appointed from California?

Mr. McPherson. He was.

The Chairman. And Thomas Riggs, jr., was a business man; what was his profession?

Mr. McPherson. He was in charge of one of the parties surveying the international boundary between Alaska and Canada.

The Chairman. Is he an engineer, a surveyor?

Mr. McPherson. He is.

The Chairman. And Thomas Riggs, jr., is now the governor of Alaska?

Mr. McPherson. He is.

The Chairman. And he resigned from the Alaskan Engineering Commission to accept that position?

Mr. McPherson. He did.

The Chairman. About how long ago?

Mr. McPherson. About a year ago.

The Chairman. And Col. Frederick Mears was connected with the construction of the Panama Canal?

Mr. McPherson. I understand Col. Mears was in charge of the construction of the railroad across the Isthmus paralleling the Panama Canal.

The Chairman. He was in charge of the construction of the railroad across the Isthmus, paralleling the Canal?

Mr. McPherson. So I am advised.

The Chairman. And a part of the canal system?

Mr. McPherson. It is.

The Chairman. And he was transferred from that commission to a place on this commission?

Mr. McPherson. Yes, sir.

The Chairman. And at the outbreak of the war he resigned his place on the commission to reenter the Army?

Mr. McPherson. He did.

The CHAIRMAN. And he is still in the Army?

Mr. MCPHERSON. So I am advised.

The CHAIRMAN. Mears is a good engineer, a good railroad constructor?

Mr. MCPHERSON. That is my opinion.

The CHAIRMAN. He has so proven himself in the Panama Canal Zone?

Mr. MCPHERSON. He has.

The CHAIRMAN. Mr. Riggs has had a great deal of experience in Alaska as an engineer in charge of surveying parties, surveying the line between Canada and Alaska?

Mr. MCPHERSON. Yes, sir.

The CHAIRMAN. Mr. Edes had a good deal of experience in construction work?

Mr. MCPHERSON. He has been associated with the Southern Pacific Railroad Co., I understand, from the late seventies.

The CHAIRMAN. Mr. Edes is the only member of the commission who is now active?

Mr. MCPHERSON. He is.

The CHAIRMAN. And I understand he is, at present, too ill to be called before the committee. Is that your opinion?

Mr. MCPHERSON. Mr. Edes has been in ill health since last winter.

The CHAIRMAN. Yes. Well, we don't want to call a sick man before the committee, especially after receiving as complete information as has been furnished us. I do not believe we can improve on it.

Now, who is in charge in Alaska at the present time?

Mr. MCPHERSON. Mr. R. J. Weir is engineer in charge of the Seward Division, extending from Seward to Kern Creek, mile 0 to mile 71.7; Mr. William. Gerig is engineer in charge of the Anchorage Division, from Kern Creek to Broad Pass and including the Matanuska branch; and Mr. F. D. Browne is engineer in charge of the Fairbanks Division, covering all lines and branches north of Broad Pass.

The CHAIRMAN. Now, you have been doing work for the commission in Washington?

Mr. MCPHERSON. I have.

The CHAIRMAN. And you are still doing so?

Mr. MCPHERSON. Yes, sir.

The CHAIRMAN. After you leave here you will go to Alaska, after you sever your connections with the department?

Mr. MCPHERSON. I expect to go to Seattle and then to Alaska.

The CHAIRMAN. Are there any other questions the members of the committee desire to ask Mr. McPherson?

Mr. MONAHAN. I desire to ask the nature of your work here in Washington.

Mr. MCPHERSON. My work here has been in compiling these estimates of the cost to complete the work.

Mr. MONAHAN. In the capacity of an engineer?

Mr. MCPHERSON. In the capacity of an engineer for the Alaskan Engineering Commission, at the request of Secretary Lane, due to the illness of Mr. William C. Edes.

The CHAIRMAN. We all recognize the fact that Mr. Edes is sick.

Mr. BROOKS. I would like to get a little more information about the amount of freight they expect to haul on this line after it is completed. I know that to pay the expenses of operating that road will require the hauling of a great deal of freight, and the estimate of $52,000,000 will require the hauling of a good deal of freight to pay the interest on that. Of course, we don't expect to get revenue enough to pay the running expenses, operation of the road, and interest too, for sometime.

Mr. McPHERSON. No, I do not anticipate that the revenues from freight and passenger traffic will pay operation and maintenance expenses for a number of years; but with the development of the resources tributary to this line, there is no question in my mind that ultimately the traffic will pay and pay well.

The CHAIRMAN. It is a pioneer road, like all other new roads, it is developing undeveloped country.

Mr. McPHERSON. It is.

Mr. BROOKS. You will have to depend mostly on the whole country?

Mr. McPHERSON. With the completion of the road the majority of the traffic will be through traffic going to the interior. That traffic now is all routed by the long circuitous water route up the Yukon and its tributaries. The longer the road is delayed in completion the less the traffic is going to be. The people of the interior are only hanging on in the hope that the uneconomic conditions that now prevail will soon be overcome.

The CHAIRMAN. I would like to have you give us a concise history of the road from its inception, not this act; but from the inception of the idea of the road in Alaska?

Mr. McPHERSON. The inception of transportation development in Alaska?

The CHAIRMAN. Yes; just in a concise form?

Mr. McPHERSON. Transportation development of Alaska by the Government dates from the year 1898, when the construction of a trail was commenced under the direction of the War Department from Fort Liscum at Valdez on the south coast of Alaska northeastwardly through the Copper River Valley to Fort Egbert at Eagle on the Yukon River near the international boundary line. In 1902 the Government made a survey for a wagon road over this route, the southern portion of which was later improved. In 1903 Alaska was visited by a Congressional delegation, including Senators Dillingham, Burnham, Nelson, Patterson, and Dietrich, and Representatives Tawney, Humphreys, and Sulzer, who made the tour through the interior via the Yukon River. Largely as a result of the investigations of this committee, Congress in 1904 authorized the appointment of the Alaska Road Commission, under the direction of the War Department, for the purpose of constructing military post roads and trails. Gen. Wilds P. Richardson was the president of this commission from its inception until 1917 when he was detached from duty for service in France. In 1906 a special act of Congress authorized the survey of a land route from Fairbanks to Council City, the direction of which was placed under the Alaska Road Commission.

In the same year the commission completed the recognizance and location of a wagon road from Valdez to Fairbanks. With these surveys began the real study by the Government of the transportation development of Alaska by railroads and trunk wagon roads, as the location of the latter must necessarily be dependent in part on the routes to be followed by the trans-Alaska railroads. I had the honor to be engineer in charge of the four parties engaged on the survey from Fairbanks to Council City, a distance of about 600 miles. In 1908 I completed the recognizance of those portions of the trans-Alaska railroad routes with which I was not then advised, with the exception of the portion of the Susitna-Seward Peninsula route extending from the Susitna Valley to the Valley of the Innoko. This portion was covered by myself in 1914 for the Alaskan Engineering Commission. In 1912 Congress authorized the appointment of the Alaskan Railroad Commission to examine railroad routes from the seaboard of Alaska to the coal fields, and to the interior and navigable waterways, and to recommend in respect to the most available routes for railroads in Alaska. In March, 1914, Congress authorized construction of not to exceed 1,000 miles of railroad in Alaska at a cost of not to exceed $35,000,000, the direction of which was delegated to the President, who designated the Alaskan Engineering Commission to conduct the surveys. Early in 1915, upon submission of report of the surveys, the President designated the route from Seward to Fairbanks via the Susitna Valley, to be the route to be improved under the provisions of the act of March, 1914, and placed the construction of this route under the direction of the Alaskan Engineering Commission.

Mr. BROOKS. Right there, how much of that road has been completed and how much is in course of construction?

Mr. MCPHERSON. Three hundred and sixty-seven and twenty-there hundredths miles of track are in place.

Mr. BROOKS. Trains are running over them?

Mr. MCPHERSON. In operation; yes, sir. This is of date of March 31, 1919. At that time, in addition to the track in place, there was graded, ready for track laying, 36.17 miles of line. Grading was under way for a distance of 35.8 miles, and in addition 7 miles was cleared ready for grading.

Mr. BROOKS. Now, if not half of that road has yet been completed and it has cost $35,000,000 to do that work, we will have to take more money. Now, how is it possible, in your opinion, to finish the balance of the work for $17,000,000?

Mr. MCPHERSON. There is approximately 60 per cent of the road completed, and approximately two-thirds of the entire project completed, including terminals, etc. Approximately 79 per cent of the terminal facilities have been installed.

Mr. WATKINS. We are assured, then, that the $17,000,000 will complete it?

Mr. MCPHERSON. Yes, sir; if funds are available so that we can take full advantage of the open working season in Alaska, and the transportation of material and supplies by sled in winter, the necessity of which I have shown on page 47 of my report.

Mr. BROOKS. I was unfortunate in not being here the first part of the statement. You gave some reason why the $35,000,000 would not complete the work.

Mr. MCPHERSON. It is due to greatly advanced costs over those of 1915, when work was started.

Mr. STRONG. Who made the original estimates for this cost?

The CHAIRMAN. I am guilty. I was a committee of one that made the estimate.

Mr. McPherson. The act authorizing the construction of a railroad was passed in March, 1914, authorizing the construction of railroads in Alaska, not to exceed in cost $35,000,000, and authorizing the President to make the surveys and designate the lines to be constructed.

Mr. Strong. There was an estimate made after that, Mr. Chairman, on the survey of the road by the engineers?

The Chairman. Yes.

Mr. McPherson. The surveys were not made until the summer of 1914, after the act had been passed.

Mr. Monahan. Now, will you show us on the map where the roads run?

Mr. McPherson. The road starts on the south coast of Alaska at Seward, crosses through Kenai Peninsula, follows the shores of Turnagain and Knik arms, to the head of Knik arm, swings west to the Susitna Valley, which, with its tributaries, is followed to Broad Pass where it crosses the Alaska range; follows down the Nenana Valley to the Tanana River, thence up Goldstream, a tributary of the Tanana to Fairbanks.

Mr. Strong. It runs up almost to the center?

Mr. McPherson. Approximately the center. This route was designated by the President approximately a year after the passage of the act by Congress.

Mr. Brooks. After a number of preliminary surveys?

Mr. McPherson. Yes; those preliminary surveys were made after the passage of the act in 1914.

Mr. Strong. Where does the Yukon River reach?

Mr. McPherson. The Yukon River is about 60 miles northwest of the railroad at Nenana——

Mr. Strong (interposing). This road does not reach Yukon?

Mr. McPherson. It crosses the Tanana, a tributary.

Mr. Strong. Is that navigable?

Mr. McPherson. It is.

Mr. Strong. How far is it from the Yukon proper—the terminal up there?

Mr. McPherson. Approximately 60 miles from the nearest point.

Mr. Watkins. What is the topography of the country to the Yukon. Is it easy to construct a road through?

Mr. McPherson. It is rolling hills and valleys. It is through the region traversed by the survey in 1906.

Mr. Watkins. Well, is it the intention of the commission some day to carry it on to the Yukon?

Mr. McPherson. The commission has no plans that I am advised of beyond the completion of this line from Seward to Fairbanks, which is designated by the President.

Mr. Dowell. Approximately 600 miles?

Mr. McPherson. A total distance of 545 miles of main line and branches, and about 56 miles of spurs and sidings, or approximately 601 miles of track when the entire system is completed.

Mr. Brooks. Is there any considerable amount of traffic down the Yukon River?

Mr. McPherson. Yes, sir.

Mr. Brooks. Wouldn't it be advantageous to make that connection?

Mr. McPherson. Ultimately, it will.

Mr. Monahan. Mr. McPherson, what is the volume of the Yukon as compared to the Mississippi?

Mr. McPherson. It is slightly greater, as I remember. The Yukon is navigable for a distance of 2,200 miles from its mouth. There are approximately 5,000 miles of navigable waterways in interior Alaska.

Mr. Strong. And how large is this river that you make connection with?

Mr. McPherson. The Tanana?

Mr. Strong. Yes, sir.

Mr. McPherson. The crossing at Nenana will be approximately 3,400 feet in length. I would say that the river averages from one-half to three-quarters of a mile in width including its various channels, for a distance of approximately three or four hundred miles above its confluence with the Yukon.

Mr. Monahan. How far is this off from where it flows into the Yukon?

Mr. McPherson. Where the Tanana River flows into the Yukon?

Mr. Monahan. Yes.

Mr. McPherson. Approximately 100 miles.

The Chairman. Now, what was the estimated white population in Alaska at the beginning of this year. I believe it was about 30,000?

Mr. McPherson. Yes, sir; it was estimated at approximately 30,000.

The Chairman. And the native population 23,000?

Mr. McPherson. Approximately.

The Chairman. A total of 53,000 people.

Do you know what the population of the territory contiguous to this railroad is? Taking the entire line, what would be your estimate of the population that will be served by the railroad?

Mr. McPherson. The present population I would estimate at approximately 15,000 to 20,000.

Mr. Strong. What is the percentage?

Mr. McPherson. That is, the white population. It is very hard to estimate what the present population is.

Mr. Dowell. Your view would be that the railroad when completed would have a tendency to populate that section?

Mr. McPherson. There is no question about that at all. It furnishes the means whereby not only the region immediately tributary to the railroad, but also the region in the interior, indirectly tributary to the railroads, can be settled. This road furnishes the economic means that will make the settlement of interior Alaska possible, and it is only through such economic means that the country can be settled.

Mr. Dowell. When this is completed will it be necessary in order to connect with the other points to build other roads?

Mr. McPherson. Not unless the traffic warrants.

Mr. Dowell. In other words, your view is that if any further roads are to be built they will be necessary to handle the traffic?

Mr. McPherson. They will be necessary to handle the traffic or they will be natural pioneer roads that are warranted by the resources of the country into which it is proposed to extend them. It will be necessary, ultimately, to build short branches to this road as traffic develops, as has been found necessary to build the spurs from the Matanuska branch line.

Mr. STRONG. Is that part of the country of such a nature that the track can not be continued to other places?

Mr. McPHERSON. No, sir.

Mr. DOWELL. What about the snow there?

Mr. McPHERSON. The snow conditions vary. The average snowfall at Seward is probably not to exceed 3 feet; the summit of the Kenai range probably has a snowfall of approximately 6 to 7 feet; along Turnagain Arm and through the Susitna Valley from 3 to 5 feet; at Broad Pass about 4 feet, and in the Tanana Valley about 1 to 2 feet.

Mr. DOWELL. Your view, then, is that the snow is no matter to affect that?

Mr. McPHERSON. Not at all, except as snow slides may develop.

Mr. WATKINS. Have you an efficient organization up there to complete this road economically?

Mr. McPHERSON. In my opinion they have.

Mr. WATKINS. Do you think the work done so far has been done in an economic and efficient manner?

Mr. McPHERSON. I do.

Mr. WATKINS. I ask you that question from the fact that you expected to complete the road for $35,000,000, and then when it comes to a showdown they have only gotten about two-thirds completed. When the appropriation of $35,000,000 was made, that was estimated to be enough to complete the road?

Mr. McPHERSON. It was.

The CHAIRMAN. I made that estimate. It took several weeks to get the information that was necessary and compile the data, and I believed at the time and I believe now, and the committee believed, and the Senate and the conferees believed, that under the conditions which existed at that time that $35,000,000 was enough; but the war came along, and 5,000 of the young, vigorous men of Alaska were drafted, taken out from Alaska and sent to the war. The only people left to do the work were natives and old men and boys. The price of material went up from 25 per cent to 175 per cent, and the price of labor between 50 and 100 per cent, just the same as it has done here; and under war conditions, of course; and the money appropriated has been used, I believe, as efficiently and economically as could be under the circumstances. I know this much, that road in Alaska—I have taken pains to inquire into the existing problems—and this road in Alaska, as far away as it is, has been built, under war conditions, as cheap as the Southern Pacific and Union Pacific railroads have been able to construct and maintain and develop roads in the United States. There may have been some mistakes connected with the road. Of course, the washout of a few miles of railroad costs $500,000, and no engineer could have avoided that. You couldn't tell that that river was going to come up there once in 50 years and destroy or overflow the land. Of course, that cost $500,000. And the war took the most efficient member of the commission, in my opinion, and he returned to the Army and went to the war. He was the one who had been in charge of the construction of the railroad along the Panama Canal, paralleling the canal at the time of the digging of the ditch. He was an Army engineer.

Mr. WATKINS. Why was that man taken away from this work?

The CHAIRMAN. He wasn't taken away from this work at all. He was a member of this commission and he was an Army officer, and when the war came along he was a soldier, he had been educated at West Point, and he thought his duty was in the Army.

Mr. WATKINS. I see. Thanks.

The CHAIRMAN. And his position has not yet been filled, hoping, presumably, when he comes back he may take the place again; or if he wishes to stay in the Army they will pick out some one else.

Mr. Edes has been sick, and the other member of the commission, Mr. Riggs, has been appointed Governor of Alaska.

Mr. DOWELL. May I inquire just what part you have had in the construction of the road?

Mr. MCPHERSON. I have had no connection. I was requested by Secretary Lane to remain here and compile the data of the cost to complete the work, due to the illness of Mr. Edes. I have kept in close touch with the work.

Mr. DOWELL. That is, your work is in the Secretary's office?

Mr. MCPHERSON. It is for the Alaskan Engineering Commission.

Mr. DOWELL. Are you an engineer?

Mr. MCPHERSON. I am, with 28 years actual practice; 22 years in Alaska.

Mr. DOWELL. And you mean, you were in the engineering business in Alaska?

Mr. MCPHERSON. Yes, sir.

Mr. DOWELL. Were you connected with the department at that time?

Mr. MCPHERSON. I have had charge of surveys under the War Department; under the Alaskan Engineering Commission, in 1914, for corporations and individuals.

Mr. DOWELL. How long have you been connected with the Secretary's office at Washington?

Mr. MCPHERSON. In this capacity?

Mr. DOWELL. Yes, sir.

Mr. MCPHERSON. Since March 8.

Mr. DOWELL. Of this year?

Mr. MCPHERSON. Yes, sir.

Mr. DOWELL. Your visits to Alaska, then, in connection with this road were by direction of the Secretary?

Mr. MCPHERSON. Not at all.

Mr. DOWELL. How did you happen to take these visits, not in connection with your work?

Mr. MCPHERSON. Through my interest in Alaskan development. I have been wrapped up in that ever since I started up there—the first time over 22 years ago.

Mr. DOWELL. Now, what do you mean by that—in aiding the Alaskans wherever you could?

Mr. MCPHERSON. In furtherance of any means of development of the north country.

Mr. DOWELL. Have you any financial interests there?

Mr. MCPHERSON. I have not.

Mr. DOWELL. How many times did you visit Alaska during the period while this road has been in the process of construction?

Mr. McPherson. I was up in Alaska every year.

Mr. Dowell. With a special view of making examinations of this road and its construction?

Mr. McPherson. In connection with the other Alaska interests.

Mr. Dowell. What was your purpose in going?

Mr. McPherson. To study the needs of Alaska.

Mr. Dowell. And you went at your own expense?

Mr. McPherson. At the expense of the Alaska Bureau of the Seattle Chamber of Commerce, of which I am one of the original organizers, organized for the one purpose of aiding Alaskans in securing that which will tend to develop the north country.

Mr. Dowell. By whom were you employed when you went up there?

Mr. McPherson. The Alaska Bureau.

Mr. Dowell. The Alaska Bureau of the Seattle Chamber of Commerce?

Mr. McPherson. The Alaska Bureau of the Seattle Chamber of Commerce.

Mr. Dowell. Is that a part of the Chamber of Commerce of Seattle?

Mr. McPherson. It is.

Mr. Dowell. And they are persons who are interested financially in this territory?

Mr. McPherson. Some of them are; many of them are not, only from their interest in Alaska and its development.

Mr. Dowell. But this was in connection with the Alaska Bureau of the Chamber of Commerce?

Mr. McPherson. It was.

The Chairman. You were not employed by any private corporation or individual?

Mr. McPherson. To make the examination of the railroad?

The Chairman. Yes.

Mr. McPherson. No, sir.

The Chairman. Just by the Chamber of Commerce of Seattle?

Mr. McPherson. Yes, sir.

The Chairman. Have you been employed by any private concern interested in this territory, for whom you have been making investigations in Alaska?

Mr. McPherson. Yes; I have been conducting private engineering work for the greater part of 22 years in Alaska.

The Chairman. For persons who employed you?

Mr. McPherson. Yes.

The Chairman. Were those companies in Alaska or in the States?

Mr. McPherson. Some of them were in Alaska and some had their offices in the States.

Mr. Dowell. Now, we care nothing about your previous employment, of course; but since you have been visiting Alaska in connection with this road, have you since that time visited Alaska in the interests of private companies, and, if so, will you state whom you represented?

Mr. McPherson. I have not; that is, from 1915 on.

Mr. Dowell. Well, from the time you have visited Alaska in connection with this road?

Mr. McPHERSON. All of my visits since 1915 have been for the Alaska Bureau of the Seattle Chamber of Commerce, of which I have been since its inception the active director.

The CHAIRMAN. Are there any other questions that you gentlemen wish to ask Mr. McPherson?

Mr. STRONG. Have you any financial interest in the building of this road?

Mr. McPHERSON. I have not.

Mr. STRONG. Have you any interests that would be subserved by the building of it?

Mr. McPHERSON. I have not.

Mr. STRONG. Have you any clients for whom you are an engineer that will be benefited?

Mr. McPHERSON. I have not.

Mr. DOWELL. In your present employment, what have you to do with the fund or the construction of the road?

Mr. McPHERSON. Nothing; except as my advice is had at the morning meetings to which Mr. Hallowell referred.

Mr. DOWELL. Have you any official duties to perform in reference to the construction of the road?

Mr. McPHERSON. No, sir.

Mr. DOWELL. In your present capacity?

Mr. McPHERSON. No, sir; I am here at Secretary Lane's request to compile the data of cost to complete the project, as I had gone over the road last fall and made independent estimates of the cost to complete.

Mr. DOWELL. That was made for the Chamber of Commerce in Seattle?

Mr. McPHERSON. Yes, sir; for the Alaska Bureau of the Seattle Chamber of Commerce.

Mr. DOWELL. Were you then representing the Alaska bureau?

Mr. McPHERSON. Yes, sir.

Mr. BROOKS. How does it happen that you have got so much interest in the building of this road, and the estimated cost of these various projects?

Mr. McPHERSON. Since the organization of the Alaska bureau, we have followed every phase of Alaskan development. For that reason we championed the Alaskan contention before the American-Canadian Fisheries Commission a year ago.

The preparation of this case necessitated a study of the fisheries not only of the Pacific but also of the Atlantic and the border lakes.

If the deep-sea fisheries of Alaska are permitted to center from Prince Rupert, as they do to-day, it is only a question of time when this great American industry will become Canadian. With your permission I will insert in the record copy of a part of my closing statement in that case.

The great fishing industry of the North Pacific has been conducted along lines of economic waste that have resulted in the use of only the more valuable varieties of fish, increased cost to the consumer and no commensurate return to the producer. It has been shown that from one-half to two-thirds of the time of the fisherman is wasted operating from bases at Prince Rupert or at Puget Sound ports, while the fishing vessel is transporting the catch to its base of operations. With the present need of food it would appear imperative that we conserve the valuable time of the fisherman and his equipment in a more economical handling of this industry. This can only be secured by the landing of the catch at the nearest port to the fishing banks, where it can be frozen or otherwise prepared and transported by freight-carrying steamers to a railroad terminus. If the Grand Trunk Pacific Railroad, through a shorter distance to the principal markets of the East or due to other economic conditions, is enabled to secure a greater part of the transportation of this industry, the only regret of the Alaskans will be due to their patriotism. The Alaskan does, however, strongly protest against any condition, natural or otherwise, which may have the effect of centering the producing part of this industry in Prince Rupert, as such a condition can only result in a continuation of the present wasteful method of operation; the gradual loss of this, our principal fish industry, to the United States; and the loss of an industry to Alaska that would, if economically developed, result in the building of many prosperous fishing communities along the coast of Alaska.

This industry is now predominatingly American, due to the fact that it has been developed with bases at San Francisco and the ports of Puget Sound. If the present methods of operation are continued, without restriction, the base will shortly be Prince Rupert, and the fleet and industry will become Canadian, just as surely as the Gloucester banker fleet became Newfoundlander; the United States will lose the only extensive fisheries it possesses, the great need of which is now known to our people, both as a valuable source of food supply and as a training ground for the seamen which this Nation will require for its Navy and merchant marine.

Nature has richly endowed Alaska with these fishing banks adjacent to her shores, and their rational development, from the standpoint of the fishermen, the people of the United States, and the people of the great Territory of Alaska, requires the centering of this industry at the nearest ports on the coast of Alaska to the fishing banks. This would result in more favorable conditions and greater profit to the fishermen; reduced cost to the consumer; and the building of prosperous fishing communities along the coast of Alaska, from Ketchikan to Kotzebue, a distance of over 3,000 miles.

Alaska to-day presents the unique spectacle of possessing probably the greatest fishing resources of any country and, relatively speaking, no fishing population.

It has been the earnest effort of all friends of Alaska to bring about a change that would result in the more economical and rational development of this industry and build up a fishing population in Alaska that would assure an allied industrial development, the value and extent of which would be far-reaching. There is no condition, climatic or otherwise, prohibitive of such development. The winter climate along the south coast of Alaska is more favorable to the building of communities than is the case along the New England coast. The average temperature for the month of January on the south coast of Alaska is the same as that of New York.

Mr. McPherson. We have made a study of all conditions pertaining to the development of Alaska—railroad, wagon road, and trail construction and development—water transportation, aids to navigation, fisheries, conditions affecting the development of Alaska's mineral, coal, oil, water power, timber, and other great natural resources, mail and trade conditions, etc.

Mr. Dowell. What experience have you had in construction?

Mr. McPherson. I have followed general engineering practice 28 years.

Mr. Dowell. Were you engaged in railroad construction?

Mr. McPherson. Railroad and all classes of civil and mining engineering.

Mr. Dowell. That is, in the United States?

Mr. McPherson. And in Alaska.

Mr. Dowell. This early railroad over there, this Copper River Railroad?

Mr. McPherson. It extends from Cordova to Kennecott, a distance of 196 miles.

Mr. Dowell. Did you assist in the construction of that?

Mr. McPherson. I was the first chief engineer of that road.

Mr. Dowell. What do you estimate is the increased cost of construction above what it was in 1915?

Mr. McPherson. That is found on page 36 of my report. Upon completion the estimated increased cost over the estimate of 1915 is shown to be 30.1 per cent. Since 1915 the average increase in the cost of labor has been 59 per cent; lumber delivered was 91.4 per cent, while iron delivered was 106 per cent; ocean freight was 115 per cent; railroad freight, 147 per cent; while supplies ranged from about 25 per cent to 161 per cent over the cost in 1915.

Mr. DOWELL. Can't you state the number there that you estimate that could be put to work on this construction?

Mr. MCPHERSON. From 5,000 to 6,500 during the height of the season.

Mr. DOWELL. Would you be able to secure that number of men for this work at the present time?

Mr. MCPHERSON. You could, provided you could assure them a full season's work.

Mr. DOWELL. What do you mean by a full season's work?

Mr. MCPHERSON. From early in May till late in October.

Mr. DOWELL. They can work practically all of that time?

Mr. MCPHERSON. They can.

Mr. DOWELL. Those men will be secured in the States?

Mr. MCPHERSON. Only in part. There is to-day engaged on that work, as I have shown in the record, approximately 2,460 men. If the funds had been available so that they could have increased the force, there is no question in my mind that they could have increased the number to probably 3,500 from the local sources alone. Men who failed to get employment on the railroad have gone into other districts.

Mr. BROOKS. How many miles of railroad, approximately, is there in Alaska outside of and in addition to this road?

Mr. MCPHERSON. The Copper River Northwestern Railway, 194.98 miles in length, extending from Cordova to Kennicott, Alaska, and the White Pass and Yukon Railway from Skagway to the international boundary, 20 miles, are the only roads in operation.

Mr. BROOKS. Now, can you tell us how the cost of construction of those roads compared with the cost of construction of this?

Mr. MCPHERSON. That is set forth on page 35 of my report.

Mr. BROOKS. I did not know whether you had brought that out in the hearing or not.

Mr. MCPHERSON. That statement begins on page 34 in which I have set forth the estimate cost of the railroad per mile for the entire railroad. The cost is based on completion in the year 1921, in which it shows that the average cost of the main line and the Matanuska branch, totaling 508.4 miles, exclusive of the cost of terminals, rolling stock, physical property, and maintenance of operation cost, but including costs for general expenditures estimated at $2,400 per mile, and the cost of construction of sidings, roadway buildings, telephone and telegraph lines, totaling 601 miles of track, but based only on the main line and Matanuska branch, 508.4 miles, is about $73,200 per mile.

The cost of the Copper River & Northwestern Railway, 194.98 miles in length, is given in the hearings on the Alaska case before the Interstate Commerce Commission at about $83,000 per mile.

Mr. BROOKS. This cost less?

Mr. MCPHERSON. This cost less. Including all expenditures for terminals, rolling stock, physical property, maintenance, and operation during the entire construction period, up to the year 1921, you will have a total estimated cost on all at the end of that time, for the entire project, based on 508.4 miles only, and there will be 601 miles of track, of approximately $99,200 per mile.

The return of the Copper River & Northwestern Railway to the Interstate Commerce Commission shows a value of $146,090.39 per mile, approximately 46 per cent greater. The returns of the Pacific & Arctic Railway & Navigation Co., owning the White Pass & Yukon Railway from Skagway to the international boundary at the summit of White Pass, a distance of 20.4 miles, shows in its return to the Interstate Commerce Commission for the year 1917 a book value of $115,343.68 per mile. This road is a narrow gauge with 4 per cent grade.

Mr. BROOKS. Ours is a standard gauge?

Mr. MCPHERSON. Yes, sir; except for the Chatanika and Chena branches, and will cost, estimated to complete in 1921, $99,200 per mile. That will be slightly increased through not being able to complete until the end of 1922.

Mr. STRONG. Approximately $100,000 per mile?

Mr. MCPHERSON. Yes, sir.

Mr. BROOKS. The figures show that it is being constructed at a great deal less?

Mr. DOWELL. The cost of construction depends upon conditions.

Mr. MCPHERSON. Physical conditions.

Mr. DOWELL. The part you have got to build is the highest part in the road?

Mr. MCPHERSON. Highest elevation.

Mr. DOWELL. The highest elevation; that will be the most expensive, will it not—more expensive than the more level parts of the railroad?

Mr. MCPHERSON. No, sir; those facts I also outlined in this report, page 38, and if you wish I will just read the approximated estimated cost per mile.

Based on the estimated completion in December, 1921, which, if not completed until December, 1922, will be slightly increased——

Mr. DOWELL (interposing). Will that be increased above the estimate?

Mr. MCPHERSON. Above the segregated estimated cost per mile by sections.

The CHAIRMAN. Of $17,000,000?

Mr. MCPHERSON. No, sir; but slightly above the cost per mile as defined on page 38 of my report.

This estimated cost per mile, based on the total cost of completion, is $50,436,971. The present estimate to carry it up to December, 1922, is for $17,000,000, covering general maintenance and operation costs during the year, 1922, which, as I have said in my letter to the Secretary, will not, in my judgment, be required, as the road will be in receipt of considerable revenue before the end of that year; but we have no data as to the amount of that revenue, and we have no basis upon which to make any close estimate at this time. A part of the cost of general expenditures for the year 1922 will be allocated to the cost of road, slightly increasing these estimates per mile.

Based on the estimated cost of $50,436,971 on completion, the estimated average cost of the road is $73,200 per mile

The estimated average cost of the various sections is as follows, per mile:

Mile 0 to mile 70.7, Seward to Kern Creek, 70.7 miles, covering what was formerly the Alaska Northern Railway, the average cost will be $65,700.

Mr. DOWELL. That is the railroad you referred to awhile ago as having been constructed by a private corporation—that is this road?

Mr. MCPHERSON. Yes, sir; and is now being reconstructed.

Mr. DOWELL. This railroad has been taken over, bought?

Mr. MCPHERSON. Yes, sir.

Mr. DOWELL. And how many miles?

Mr. MCPHERSON. Seventy and seven-tenths miles.

Kern Creek to end of Seward division, mile 70.7 to mile 79.3, the average cost per mile will be $234,000, due to heavy work and snowsheds; from mile 79.3 to mile 100.6, along the north shore of Turnagain Arm, a total distance of 21.03 miles, the average cost per mile will be $137,900.

Mr. DOWELL. Now, you state on the map here, of this road—where are you beginning construction now?

Mr. MCPHERSON. It is all under construction, or reconstruction.

Mr. DOWELL. Well, but what I am inquiring about is this: What had to be constructed, or what has to be reconstructed?

Mr. MCPHERSON. It has been constructed, but there is still work to be done, as set forth in detail on this map and in this report.

Mr. DOWELL. This part is not yet complete?

Mr. MCPHERSON. The construction of snowsheds, riprap, and such work as is always left until the last year to do.

From Potter Creek to Anchorage, a distance of 13.7 miles, the average is $67,100 per mile.

From Anchorage to Matanuska Junction, a distance of 36.6 miles, the average will be $44,400 per mile.

The Matanuska branch, 37.7 miles long, the average cost will be $62,100 per mile.

Mr. DOWELL. How much of that has been completed?

Mr. MCPHERSON. The only work to be done on the Matanuska branch will cost $26,841.40. From Matanuska Junction to Sheep Creek, a distance of 52.3 miles, the average cost will be $48,500 per mile.

From Sheep Creek to Susitna Crossing, a distance of 61.8 miles, the average cost will be $62,300 per mile.

Mr. DOWELL. Has that been properly constructed?

Mr. MCPHERSON. That has been properly constructed and a part of the track is laid upon it.

Mr. DOWELL. What is responsible for that change in cost?

Mr. MCPHERSON. Due to physical conditions.

Now, we are just coming to the new work. This new work from Susitna Crossing to Chulitna, a distance of 25 miles, will cost about $123,000 per mile, due to the cost of the bridge across the Susitna River, and the bridge at Hurricane Gulch, which greatly increases the cost per mile for that section.

The next 75 miles, from Chulitna to Lignite, will cost $74,100 per mile.

The cost from mile 365, Lignite to Nenana, including crossing of Nenana River, a distance of 48.3 miles, will be $72,700.

Mr. DOWELL. That has been ballasted?

Mr. MCPHERSON. That is all in operation now, simply finishing and ballasting.

Mr. DOWELL. Then, there are approximately 100 miles?

Mr. MCPHERSON. One hundred miles on which no work has been done, and that 100 miles, the south 25, will average about $123,000 per mile, while the north 75 miles will average about $74,100 per mile.

Mr. DOWELL. Now, may I inquire what is the cost of completion of the railroad, already partially constructed, up to the point here, which you have made, Talkeetna.

Mr. MCPHERSON. South of Susitna crossing.

Mr. DOWELL. Yes; what is the cost now to complete the road, the rest, to that point?

Mr. MCPHERSON. I will just read the figures: $22,582.55; $132,264.81; $115,158.27; $1,448,177.01; $1,067,330.35; $259,438.90; $285,103.34; $26,810.40; $1,298,709.87; a total of $4,655,575.50, which will complete the road to the crossing of the Susitna River, at mile 265.

Mr. BROOKS. If that is completed, what would be the effect if we did not make appropriations to complete the road the balance of the way?

Mr. MCPHERSON. It would result in not having the south end connected up with the north end of the road, and they would not be able to handle any through traffic, which is a prime purpose for which this road is being constructed, to connect the navigable waters of the interior with the open ports on the coast.

Mr. DOWELL. How much of the appropriation is still not expended?

Mr. MCPHERSON. The returns as of July 7, 1919, show the resources in excess of the liabilities to be $2,052,475.16.

Mr. WATKINS. Up to when?

Mr. MCPHERSON. July 7.

Mr. BROOKS. That amount is on hand and available?

Mr. MCPHERSON. Yes, sir.

Mr. BROOKS. Are they working, actually, on this road now?

Mr. MCPHERSON. They are.

Mr. WATKINS. To the full extent?

Mr. MCPHERSON. The force on July 12, numbered 2,460, which I have included in the record and which shows where the force is engaged.

Mr. STRONG. But they are practically working full strength?

Mr. MCPHERSON. They are working as full strength as is possible with the funds now available.

Mr. STRONG. Suppose you put that in the record?

Mr. MCPHERSON. I have done so, sir.

Mr. DOWELL. Judge Watkins asked you what would be the result if the part that has not been constructed, rather the part that no work has been done on by way of construction, is not completed. Can you give in detail what your estimate would be of the value of the other road if that is not completed?

Mr. MCPHERSON. I can not. It would be——

Mr. DOWELL (interposing). I wish you would explain that to the committee in a way that we can understand the connection between these two roads that are being constructed here. And, then, I want to ask another question. If it was the purpose to connect this entire roadway into one road, why was the construction not carried on from one end, instead of commencing, as has been done, at these different angles here, and bringing them together? I would like to have you explain that.

Mr. McPHERSON. I will answer the last question first, if I may.

Mr. DOWELL. Yes, sir.

Mr. McPHERSON. Construction was started from Nenana.

Mr. BROOKS. May I ask you how you got the material up to that point?

Mr. McPHERSON. By river. Up and down the Yukon River. Construction was started from Nenana so as to provide coal for the Fairbanks section in order that they might continue mining in that region. They have been burning wood for fuel in the Fairbanks mining district at a cost of $15 to as high as $20 per cord, which is prohibitive of economic mining. They have been mining at great waste, under which conditions there was no prospect of the development of the lower-grade properties. Upon the completion of this work they will be able to carry coal from the lignite fields into Fairbanks and provide coal for fuel.

Mr. BROOKS. At a cost of $5 or $6 a ton?

Mr. McPHERSON. That will be approximately the cost.

Mr. WATKINS. Now, what is the comparison of wood to coal?

Mr. BROOKS. What will the consumer pay for a ton of coal?

Mr. McPHERSON. It is approximately $5.58 per ton now, which includes all development charges and which total approximately $2 per ton, so that the actual mining cost is about $3.50 a ton.

Mr. BROOKS. What is the sale price at Nenana?

Mr. McPHERSON. The Commission has a contract at Nenana, from the people who are mining in the lignite fields, at $5 per ton.

Mr. STRONG. Could you give us an idea as to how a cord of wood compares as to that coal?

Mr. McPHERSON. In the Fairbanks district I would say 2 to 3 cords of wood—2 cords of wood at least to 1 ton of coal. That is approximate.

As to your first question: All of the interior of Alaska is now dependent for transportation of material and supplies on the long and costly water route, through Canadian territory and down the Yukon or via St. Michael and up the Yukon and its tributaries, which is prohibitive of any economical development.

Mr. DOWELL. Then, the transportation to the upper road, the northern end of this road, which is completed, all of it would have to be by water?

Mr. McPHERSON. In the construction of the uncompleted 100 miles of the road it is planned to construct about 20 miles from the Nenana end, unless it is found that we can more economically construct a greater or less distance from that end than we can from the south end.

Mr. DOWELL. I don't get that.

Mr. McPHERSON. The economic plan, as now worked out, for the completion of the 100 miles, between mile 265 and mile 365, calls for approximately 20 miles being constructed south from the present end of steel mile 365.5, and for approximately 80 miles being constructed north from mile 265.

Mr. DOWELL. Now, there is one other question. Assuming now the proposition that Judge Watkins spoke of to you, that the 100 miles that is not provided for; what effect will that have upon the traffic of the then two roads that are owned and operated by the Government?

Mr. McPHERSON. You will lose entirely the through traffic this road will have on completion; the through traffic to the navigable waters, in the interior.

Mr. DOWELL. In order that this traffic may be transported; it is essential that this road be completed?

Mr. McPHERSON. It is, if economically transported.

Mr. DOWELL. How could this traffic be transported if this road is not completed?

Mr. McPHERSON. By the same route as is now used, by the long, circuitous water route which makes all economic development in the interior prohibitive, and permits of the development of only very rich placer deposits.

Mr. DOWELL. What is the difference in length there, between that 100 miles, and the distance if you go by water, if this 100 miles isn't constructed?

Mr. McPHERSON. The distance from Skagway in Southeastern Alaska, via the White Pass and Yukon Railroad, to White Horse, down the Yukon to the mouth of the Tanana, and up the Tanana to Nenana, is approximately 1,520 miles. This route is only open for navigation for approximately four to five months during the summer.

The distance from St. Michael and then up the Yukon to Tanana, and then up the Tanana to Nenana, over which the boats only operate from three to four months in the summer is about 1,150 miles.

Mr. DOWELL. You mean that traffic isn't conducted on the river except in three months during the year?

Mr. McPHERSON. On the lower river, approximately three to four months. The last chance for sending supplies into Nenana this year via St. Michael will be on the sailing from Seattle on August 10. All supplies and material for this interior work until next July must leave on the boat departing from Seattle August 10. From which it is apparent that under such conditions, it is impossible to carry on any economical development of the interior.

The CHAIRMAN. That is caused, probably, by the fact that the Yukon for a number of miles flows north of the Arctic circle, and for a great many miles is close to the Arctic circle, and is frozen over nine months in the year.

Mr. McPHERSON. That is due to not being able to start navigation on the lower river until the ice is out of Bering Sea about June 15. At the beginning of the season, the first navigation is always from the upper end, going down with the ice.

The CHAIRMAN. They can not bring anything in until the ice is out of the river.

Mr. DOWELL. You stated sometime ago, I do not know whether it was to-day or yesterday, that this work was being let out to certain persons under contract. I wish you would explain more clearly just how that is done?

Mr. McPHERSON. It is on a contract. The contract is based on a cost per yard in excavation and per acre in clearing and grubbing.

Mr. Dowell. Is this let to a contractor who does this work, or does it go to the workmen?

Mr. McPherson. It goes to the workmen.

Mr. Dowell. And no contract is let to the individual?

Mr. McPherson. No, sir; no contract is let to the contractor. The contracts are all let to individuals.

Mr. Dowell. Well, that is what I mean. It isn't let to one individual who employs labor?

Mr. McPherson. No; where the contract is of such size as to be too great for any one individual, they band themselves together and take the contract.

Mr. Dowell. And then they proportion that equally among themselves—would that be done?

Mr. McPherson. My understanding is, an equal division.

Mr. Dowell. Then, if 10 men were given a contract for a certain contract, each would have one-tenth?

Mr. McPherson. That is my understanding.

Mr. Dowell. Then there is no placing of contracts, contracts made to individuals for contract work?

Mr. McPherson. Not that I am aware of.

Mr. Dowell. Was any effort made to find out whether or not this work could be done by a contractor?

Mr. McPherson. I am not advised whether there was or not.

Mr. Dowell. You have no information?

Mr. McPherson. No, sir.

Mr. Dowell. The statement was made here on yesterday that this work was being done under an engineer in charge; do you know these engineers?

Mr. McPherson. I do, personally; Mr. R. J. Weir is the engineer in charge of the Seward Division; Mr. William Gerig is the engineer in charge of the Anchorage Division, and Mr. F. D. Browne is the engineer in charge of the Fairbanks Division.

Mr. Dowell. Do you know their ability as engineers?

Mr. McPherson. I do. I consider them very capable engineers.

Mr. Brooks. You stated a while ago that the cost of constructing this road was a great deal less than the cost of constructing the other two railroads up there. Will you tell me why the cost to construct this road is so much less than the cost to construct the other roads?

Mr. McPherson. I can only give my opinion on that.

Mr. Brooks. The reason I ask that question—pardon me—is that work done by individuals, private concerns, usually costs a great deal less than work done by the Government, and it seems strange, you know, that we should be getting this work done for less money.

Mr. McPherson. My opinion is that this result is being secured through the system of individual contracts, and the contractors' profit is eliminated.

Mr. Watkins. What about the topography of the country? That may be different.

Mr. McPherson. That is another feature that would enter into it to a greater or less extent and could only be determined by a close analysis.

Mr. Watkins. That road was built to get into the copper field?

Mr. McPherson. The Copper River & Northwestern Railway was built primarily to get into the copper fields at Kennecott.

Mr. WATKINS. They have no mountains to contend with?

Mr. McPHERSON. From Cordova the line extends across the flats to Copper River at about mile 26, whence it follows the Copper River Valley, in places along the bases of high mountains, to Chitina at mile 130, where it turns east up the Chitina Valley to Kennecott. The road crosses the Copper River three times. To Chitina the road is of heavy construction and for the last 66 miles of lighter construction for mining traffic. The road is well built and capable of handling a heavy traffic.

Mr. DOWELL. How long will the present appropriations, or the present funds, rather, last in this contract?

Mr. McPHERSON. On the basis of the present force and providing for the bare operation throughout this next winter, it will only carry the present force up to approximately the middle of October.

Mr. WATKINS. This year, or next year?

Mr. McPHERSON. This year. If there is no further appropriation before the middle of October, the present force will have to be cut to the bare operating force, and you will lose the construction organization which we now have on the job.

Mr. BROOKS. Therefore it is important to have this money available?

Mr. McPHERSON. It is absolutely essential to the project that more funds be secured before that time.

The CHAIRMAN. Would it be economy for the Government to appropriate this money?

Mr. McPHERSON. It would be economy from every standpoint. The longer the road is delayed in completion, the greater the cost, as the construction forces can not be disorganized until the road is completed, except at great loss, and maintenance and operation costs will increase yearly. The longer the completion of the road is delayed the less will be its revenue of through traffic on completion, as industrial development in interior Alaska is decreasing yearly, due to inability to contend with the present uneconomic conditions.

Mr. BROOKS. Are the other railroads profitable?

Mr. McPHERSON. The Copper River & Northwestern Railway has, I understand, returned dividends during the last three or four years. Its traffic is principally copper ore from the Kennecott mine.

Mr. BROOKS. Isn't it expected that the Pacific coast cities and towns of the United States will be benefited by the coal coming from this district?

Mr. McPHERSON. There is no question about it.

Mr. BROOKS. The only high-grade coal for the Pacific coast is in the Alaska fields.

The CHAIRMAN. That is one reason why the chambers of commerce of San Francisco and Seattle and Portland are so much interested.

Mr. BROOKS. I was going to ask the question why it is that the chamber of commerce at Seattle is spending so much money in investigating conditions.

Mr. McPHERSON. This work was organized by men who had been in Alaska, or had friends in Alaska, and who knew of its great resources and the great value of their rational development so as to result in permanent industries and a stable population, the benefits of which will accrue to Seattle, the West, and the entire Nation.

It is the work to which I have given the major part of my time since its inception and for four years as a hobby.

The CHAIRMAN. Of course, the chambers of commerce, in addition to being interested in the people of the North in developing their manufactures and industries and for the use of the coal, are also interested in the development of Alaska as a market.

Mr. MCPHERSON. The greater value of Alaska to this Nation is what we can make out of it and not what we can take from it. A rational development, resulting in permanent industries, and a growing, prosperous population, will result in an ever increasing market. In 1917, when the world's need was metals and food, Alaska, with only approximately 40,000 white population, sent out a greater value in metals than was produced by the Golden State of California, and sent out more fish than was produced by California, Oregon, Washington, and British Columbia combined. Development is now limited to a very narrow belt adjacent to the coast to the Copper River & Northwestern Railway and to the interior section reached by river transportation during the short season open to navigation of from three to five months in the summer.

The CHAIRMAN. That would only permit of their working the very richest mines?

Mr. MCPHERSON. The very richest.

The CHAIRMAN. If this road is completed, the mining machinery can be brought into Alaska and the lower-grade ores can be treated according to modern methods, and when the mines are properly equipped the gold output of Alaska may be increased four to five times.

Mr. BROOKS. As I say, and not only to the benefit of the Western States, but also to the benefit of the whole Nation.

Mr. MCPHERSON. The whole Nation is vitally interested in the rational development of Alaska for its rich and varied deposits of minerals and other natural resources required in our industries, as a great source of food supply, and as a most promising and prosperous market.

Undeveloped and unpeopled Alaska is a source of national weakness. Peopled and developed, it will be a source of ever increasing national strength.

The CHAIRMAN. Are there any further questions?

Mr. MCPHERSON. Answering an inquiry relative to the size of the lots at Anchorage and the average price per lot secured from the sale of same, the lots are 50 by 140 feet and the average price per lot was $219. The sale of 749 lots netted $164,210. At Nenana 430 lots have been sold, at an average cost per lot of $320. At Matanuska 59 lots have been sold, at an average price of $158 per lot. At Seward 150 lots have been sold, at an average price of $182 per lot. At Wassilla 53 lots have been sold, at an average price of $105.

This represents the average value on the total sales. Some of the purchases have since been forfeited. Some of the deferred payments on these purchases have not yet been made, under Executive order postponing such payments during the period of the war.

Replying to the request for information on the coal-mine operations, I submit a statement compiled from the monthly report of Sumner S. Smith, superintendent, June, 1917, to February, 1919, inclusive. Also telegram from William Gerig, engineer in charge of the Anchorage division and under whose directions the coal mining operations are being conducted, giving the tonnage blocked out and in sight in the Eska and the Chickaloon mines.

*Production and costs.*

| | | Tons. | Average per ton. |
|---|---|---|---|
| Coal shipped to Alaskan Engineering Commission at anchorage: | | | |
| From Eska Mine...short tons.. | | 80,768.80 | |
| From Chickaloon Mine...do.... | | 5,337.43 | |
| Total... | | 86,106.23 | |
| Cost of mining, including development work: | | | |
| Eska Mine... | | $377,683.44 | $4.67 |
| Chickaloon Mine... | | 103,111.47 | 19.32 |
| Total... | | 480,794.91 | 5.58 |
| Cost of development work included in above: | | | |
| Eska Mine... | | 76,294.61 | .94 |
| Chickaloon Mine... | | 103,111.47 | 19.32 |
| Total... | | 179,406.08 | 2.08 |
| Net cost of mining coal, exclusive of development work... | | 301,388.83 | 3.50 |
| | | 480,794.91 | 5.58 |
| CHARGES FOR COAL SHIPPED TO ALASKAN ENGINEERING COMMISSION. | | | |
| 18,159.68 short tons, at $5... | $90,798.10 | | |
| 77,964.61 short tons, at $6... | 467,679.66 | | |
| Total... | 558,477.76 | | |
| Profit over cost of mining and development... | | 77,682.85 | ........... |
| | | 558,477.76 | ........... |

*Capital account.*

| | | |
|---|---|---|
| Purchase price, Eska Mine... | | $15,650.00 |
| Improvements and betterments... | | 99,166.75 |
| Total... | | 114,816.75 |
| Chickaloon Mine: | | |
| Permanent works... | $9,231.62 | |
| Development works... | 103,111.47 | |
| | | 112,325.09 |
| Total... | | 227,141.84 |

*Coal reserves to cover capital investment.*

| | |
|---|---|
| 500,000 tons at Eska, at $6... | 3,000,000.00 |
| 300,000 tons at Chickaloon, at $6... | 1,800,000.00 |
| | 4,800,000.00 |
| Cost to mine 800,000 tons at average mining cost of $5.58 per ton, which includes $2.08 development cost... | 4,464,000.00 |
| Possible profit if all further development work ceases and coal is produced at average mining and development cost... | 336,000.00 |
| Profit earned as per item above... | 77,682.85 |
| | 413,682.85 |

Alaskan Engineering Commission charges fuel account for coal used $6. 60 per short ton.

Alaskan Engineering Commission charges employees for coal delivered in Anchorage homes $8. 60 per short ton.

NOTE.—The coal used by the Alaskan Engineering Commission is charged to its fuel account at cost plus 10 per cent to cover cost of handling.

| | |
|---|---|
| 1,200 tons of Nainaimo cost, delivered at Seward, $11.70 per ton, $6.50 being the freight charge per ton; at this price the fuel supply of the commission, based on the quantity delivered from the Eska and Chickaloon mines, would have been for 86,106.23 short tons | $1, 007, 442. 89 |
| Amount charged to Alaskan Engineering Commission for fuel supply by Eska and Chickaloon mines | 558, 477. 76 |
| Saving by mining operations | 448, 965. 13 |
| Blacksmiths' coal purchased at Seattle at $19 per ton costs landed at Seward $25.50 per ton. The cost per ton of producing Chickaloon coal which is in all respects equal to best blacksmiths' coal imported is, per short ton | $19. 32 |
| On the necessary supply for the Alaskan Engineering Commission the saving per ton of blacksmiths' coal used is therefore, per ton | 6. 18 |

[Telegram.]

DEPARTMENT OF THE INTERIOR,
*Anchorage, Alaska, July 19, 1919.*

EDES, *Interior, Washington:*

Referring to your telegram dates: At Eska, 150,000 tons coal blocked out and ready to mine, besides 350,000 tons in sight; total 500,000 tons. At Chickaloon, 300,000 tons above stations in slope.

GERIG.

I also insert in the record proclamation of President Woodrow Wilson, authorizing the Alaskan Engineering Commission to dispose of surplus coal for supplying the domestic and local needs, when the available supply is inadequate, during the period of the war.

(The proclamation referred to is printed in the record in full as follows:)

[Authorizing the Secretary of the Interior to dispose of surplus coal from the mine operated by the Alaskan Railroad Commission.]

### BY THE PRESIDENT OF THE UNITED STATES OF AMERICA.

### A PROCLAMATIHON.

Whereas, section 2 of the act of Congress approved October 20, 1914 (38 Stats., 741), authorizes the mining of coal from reserved areas in Alaska under the direction of the President, when necessary, by reason of the insufficient supply, for national protection, or relief from oppressive conditions; and

Whereas, it appears that the available supply of coal for domestic and other uses in the Territory of Alaska is by reason of existing conditions inadequate and insufficient,

Now, therefore, I, Woodrow Wilson, President of the United States of America, under and by virtue of said statute, do hereby authorize and direct the Secretary of the Interior, during the period of the existing war, to sell and dispose of surplus coal taken from the mine now being operated by the Alaskan Railroad Commission, for supplying domestic and other local needs in the Territory.

In witness whereof, I have hereunto set my hand and caused the seal of the United States to be affixed.

Done in the District of Columbia this 27th day of August, in the year of our Lord one thousand nine hundred and eighteen, and of the Independence of the United States the one hundred and forty-third.

[SEAL.] WOODROW WILSON.

By the President,
ROBERT LANSING,
*Secretary of State.*

No. 1479.

Mr. McPHERSON. I also insert copy of the monthly report of Mr. Sumner S. Smith, superintendent of the coal mining operations, giving the cost of coal mining operation at Eska and Chickaloon for the month of February, 1919.

(The statement referred to is printed in the record in full as follows:)

*Department of the Interior, Alaskan Engineering Commission, Mining Department, Eska Creek coal mine.*

[Cost sheet—February, 1919. Coal production—3,696.85 tons.]

| Operating accounts. | Labor. | Explosives. | Material and credits, other charges. | Total cost. | Cost per ton. |
|---|---|---|---|---|---|
| Mining | $5,297.38 | $973.87 | $317.29 | $6,588.54 | $1.78 |
| Development | 2,421.85 | 545 11 | 164.91 | 3,131.87 | .85 |
| Prospecting | 156.00 | 28.01 | 5.10 | 189.11 | .05 |
| Tramming and loading | 1,461.02 | .......... | .30 | 1,461.32 | .40 |
| Mine timbering | 572.74 | .......... | 1.25 | 573.99 | .16 |
| General mine expense | 230.23 | .......... | 99.87 | 330.10 | .09 |
| Picking and cleaning coal | 34.20 | .......... | .......... | 34.20 | .01 |
| Operation cleaning plant | 622.60 | .......... | 15.37 | 637.97 | .17 |
| Cleaning plant haulage | 274.04 | .......... | 63.43 | 337.47 | .08 |
| Ventilation | 165.33 | .......... | 13 69 | 179.04 | .05 |
| Tool sharpening | 234.28 | .......... | 21.05 | 255.33 | .07 |
| Superintendence | 1,170.00 | .......... | .......... | 1,170.00 | .32 |
| Engineering | 260.00 | .......... | .30 | 260.30 | .07 |
| Office expense | 350.00 | .......... | 10.00 | 360.00 | .10 |
| Hospital expense | 225.00 | .......... | .......... | 225.00 | .06 |
| Camp expense | 269.50 | .......... | 79.86 | 349.36 | .09 |
| Stable expense | 43.35 | .......... | 141.65 | 185.00 | .05 |
| Heating and lighting | 149.39 | .......... | 259.02 | 408.41 | .11 |
| Operation power plant | 463.00 | .......... | 530.55 | 993.55 | .27 |
| Operation store | 170.78 | .......... | 26.24 | 197 02 | .05 |
| Maintenance sewer and water system | 187.71 | .......... | 8.36 | 196.07 | .05 |
| Maintenance haulage equipment | 52.39 | .......... | 12.98 | 65.37 | .02 |
| Maintenance camp and mine buildings | 11.55 | .......... | 3.41 | 14.96 | .01 |
| Maintenance dwelling houses | 4.95 | .......... | 3.73 | 8.68 | ...... |
| Maintenance power plant | 16.50 | .......... | 22.96 | 39.46 | .01 |
| Maintenance mine tracks | 190.58 | .......... | 1.35 | 191.93 | .05 |
| Maintenance high line tracks | 8.45 | .......... | .......... | 8.45 | ...... |
| Maintenance cleaning plant | 50.27 | .......... | 23.41 | 73.68 | .02 |
| Maintenance camp equipment | 1 65 | .......... | 1.64 | 3.29 | ...... |
| Boarding house | 765.46 | .......... | 3,019.56 | 778.91 | .21 |
| | 15,860.22 | 1,546.99 | 4,847.28 | 19,248.38 | 5.20 |

| Investment accounts. | Labor. | Material and other charges. | Credits. | Total cost. | Cost per ton. |
|---|---|---|---|---|---|
| Bunkers, tracks, and trestles | $42.22 | $22.66 | .......... | $64.88 | $0.02 |
| Cleaning plant | ........ | 32.70 | .......... | 32.70 | .01 |
| Mine equipment and tools | ........ | 15.93 | .......... | 15.93 | ...... |
| Camp equipment and tools | 18.79 | 15.98 | .......... | 34.77 | .01 |
| Haulage equipment | 36.70 | 59.51 | .......... | 96.21 | .03 |
| Camp and mine buildings | ........ | 6.88 | .......... | 6.88 | ...... |
| Office furniture and fixtures | 24.75 | 2.19 | .......... | 26.94 | .01 |
| Cleaning camp and roads | 66.75 | .......... | .......... | 66.75 | .02 |
| Sewer and water system | ........ | 8.94 | .......... | 8.94 | ...... |
| Cottages | ........ | 1.90 | .......... | 1.90 | ...... |
| | 189.19 | 166 69 | .......... | 355.88 | .10 |

Examined and approved.

SUMNER S. SMITH,
*Resident Mining Engineer.*

Correct:
F. S. HART, *Accountant.*

*Department of the Interior, Alaskan Engineering Commission, Mining Department—Chickaloon coal mine.*

[Cost sheet—February, 1919. Coal production—755.5 tons.]

| Operating accounts. | Labor. | Explosives. | Material and other charges. | Total cost. | Cost per ton. |
|---|---|---|---|---|---|
| Superintendence | $365.00 | | | $365.00 | $0.48 |
| Office expense | 256.39 | | | 256.39 | .34 |
| Hospital expense | 150.00 | | $96.64 | 246.64 | .33 |
| Camp expense | 135.57 | | 3.76 | 139.33 | .18 |
| Mine expense | 344.72 | | 30.60 | 375.32 | .50 |
| Stable expense | 26.52 | | 76.15 | 102.67 | .14 |
| Sanitation | 60.96 | | 1.84 | 62.80 | .08 |
| Heating and lighting | 170.36 | | 146.65 | 317.01 | .42 |
| Hauling water | 55.26 | | | 55.26 | .08 |
| Boarding-house loss | | | 417.86 | 417.86 | .55 |
| Hoist operation | 487.18 | | 105.41 | 592.59 | .78 |
| Fan operation | 34.29 | | 78.00 | 112.29 | .15 |
| Mine stores operation | 136.64 | | 2.15 | 138.79 | .18 |
| Doors, brattices, and stoppings | 26.00 | | .40 | 26.40 | .03 |
| Tool sharpening | 71.28 | | 6.00 | 77.28 | .10 |
| Mine timbers and timbering | 72.84 | | | 72.84 | .10 |
| Mine ladders | 26.29 | | 6.05 | 32.34 | .04 |
| Maintenance: | | | | | |
| Bunkers, tracks, and trestles | 4.06 | | .41 | 4.47 | .01 |
| Camp buildings | 3.30 | | 1.95 | 5.25 | .01 |
| Haulage equipment | | | 2.16 | 2.16 | |
| Sewer and water system | 17.25 | | 9.74 | 26.99 | .04 |
| Mine tracks | | | .13 | .13 | |
| Mine drainage | 4.55 | | | 4.55 | .01 |
| Entries, chutes, and crosscuts | 3,388.97 | $195.03 | 384.59 | 3,968.59 | 5.25 |
| Ventilation, mine | 17.10 | | 2.78 | 19.88 | .03 |
| | 5,854.53 | 195.03 | 1,373.27 | 7,422.83 | 9.82 |

| Investment accounts. | Labor. | Material and other charges. | Total cost. | Cost per ton. |
|---|---|---|---|---|
| Haulage equipment | $33.35 | $31.42 | $64.77 | $0.09 |
| Mine equipment and tools | .69 | 11.64 | 12.33 | .02 |
| Camp equipment and tools | | 29.67 | 29.67 | .04 |
| Bunkers, tracks, and trestles | 5.94 | 5.57 | 11.51 | .02 |
| Mine tracks | | 124.05 | 124.05 | .15 |
| | 39.98 | 202.35 | 242.33 | .32 |

Examined and approved.

SUMNER S. SMITH,
*Resident Mining Engineer.*

Correct:

FRANK M. KELLY, *Accountant.*

Mr. MCPHERSON. Alaska is situated at the crossroads of the Pacific, midway between our Pacific ports and those of Asia. The great circle route passes within the Aleutian Islands. The traveled route is south of and within sight of these islands. A coaling station on one of these islands, midway between our Pacific ports and those of Asia, would result in a conveniency and great saving of cost to our Pacific commerce and in a market of considerable importance for Alaska coal. Mr. A. F. Haines, vice president and general manager of the Pacific Steamship Co., at my request recently compiled some valuable data on the benefits to be derived from such a coaling station, which, with your permission, I will insert in the record.

## ESTIMATED BENEFITS OF PROPOSED COALING STATION AT KULOK, ALASKA.

### *Trans-Pacific vessels.*

| | Distance, miles. | Days' steaming, 12 knots per hour. | Bunker space—consumption 60 tons per day, plus 50 per cent leeway. |
|---|---|---|---|
| | | | *Long tons.* |
| Seattle to Kulok | 2,140 | 8 | 720 |
| Kulok to Moji | 2,708 | 9 | 810 |
| Total, Seattle to Moji [1] | 4,848 | 17 | 1,530 |

[1] Usual Japanese coaling station.

### *Bunker space.*

| | Long tons. |
|---|---|
| Now required, Seattle to Moji | 1,530 |
| Would be required, Kulok to Moji | 810 |
| Saving of space, 860 short tons, or | 720 |

### *Increased revenue (to Orient).*

| | |
|---|---|
| 860 short tons: | |
| At $30 per ton | $25,800 |
| At $15 per ton | 12,900 |
| At $10 per ton | 8,600 |

### *Increased expense (to Orient).*

| | |
|---|---|
| Assuming loading facilities at Kulok will equal Seattle's | Nil. |
| Port charges at Kulok, say | $20.00 |
| Cost of coal at Seattle and Kulok, $6.50 per long ton | Nil. |
| | 20.00 |

## ALASKA COAL PRODUCERS.

### *Coal requirements at Kulok.*

| | |
|---|---|
| Trans-Pacific sailings from Puget Sound via Great Circle route, say ..... per month | 20 |
| Quantity required ..... tons per vessel | 800 |
| Monthly requirements at Kulok ..... tons | 16,000 |

### *Operating time between Seward and Kulok.*

| | Days. |
|---|---|
| Loading at Seward or Anchorage, 7,000 tons, at 146 tons per hour | 2 |
| Steaming time to Kulok, 1,096 miles at 10 knots | 5 |
| Unloading at Kulok | 3 |
| Return steaming | 5 |
| Total (2 voyages per vessel per month) | 15 |

### *Expense of vessel operation per month.*

[United States Shipping Board vessel, 7,000 tons deadweight cargo capacity.]

| | |
|---|---|
| Wages and overtime of crew, 30 men | $3,378 |
| Fuel, 900 tons, at $3 per ton | 2,700 |
| Provisions, 30 days, at 81 cents per day | 729 |
| Dockage dues | 80 |
| Stevedoring, 50 cents per ton Kulok discharging | 7,000 |
| Insurance | 3,950 |
| Depreciation | 2,250 |
| Repairs | 2,985 |
| Miscellaneous | 420 |
| **Total** | **23,492** |

*Cost per ton—delivery.*

| | Per ton. |
|---|---|
| Cost per ton transportation to Kulok, 14,000 tons, $23,492 or | $1.67 |
| Price of coal at Kulok (Seattle prices) | 6.50 |
| Price of coal at Anchorage or Seward ($67,620 per month, or $811,440 per year) | 4.83 |

Mr. McPherson. Replying to the request for the amount of the yearly appropriations from the inception of the project—

| | |
|---|---|
| Mar. 12, 1914 (38 Stat., 305) | $1,000,000 |
| Act of Mar. 4, 1915 (38 Stat., 1148) | 2,000,000 |
| Act of Feb. 28, 1916 (39 Stat., 14) | 2,000,000 |
| Act of July 1, 1916 (39 Stat., 306) | 6,247,620 |
| Resolution of Mar. 4, 1917 (40 Stat., 1202) | 3,000,000 |
| Act of June 12, 1917 (Pub. No. 21) | 7,500,000 |
| Act of Oct. 6, 1917 (Pub. No. 64, 65th Cong.) | 4,000,000 |
| Act of July 1, 1918 (Pub. No. 181, 65th Cong.) | 5,250,000 |
| Deficiency appropriation, June, 1919 | 1,964,351 |
| Sundry civil appropriation, July, 1919 | 2,038,029 |
| Total | 35,000,000 |

The splendid esprit du corps of the men in the employ of the Alaskan Engineering Commission is illustrated in a letter addressed to Secretary Lane by William Gerig, engineer in charge of the Anchorage Division, in reply to a telegram from the Secretary, copies of which, with your permission, I will insert in the record.

[Night telegram.]

Department of the Interior,
*Washington, July 9, 1919.*

To Gerig,
*Anchorage, Alaska.*

I have followed recent telegraphic communications between this office and you and appreciate fine work by you and your coworkers under difficult circumstances. Very much hope that new bill which will be introduced shortly asking for sufficient appropriation to complete road will be passed. In meantime do your best to hold organization and proceed with work as outlined with necessarily restricted funds.

Franklin K. Lane.

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Department of the Interior,
Alaskan Engineering Commission,
*Anchorage, Alaska, July 10, 1919.*

Dear Mr. Secretary: I have your telegram of July 8, and thank you very much for it. The appreciation expressed therein will do much toward satisfying and holding the organization.

These men are, generally speaking, construction men, and are not contented unless actively engaged, and I have never seen men in better spirits than they were when work was started in June on the broader program. Generally speaking, the culls have been eliminated, and every man is loyal to and proud to be of the organization. It was a great disappointment to them when it was learned that the appropriations had been reduced. Some have already departed, but I hope to be able to hold those who are here. I shall do all in my power to do this and do the work as outlined with the necessarily restricted funds.

Thanking you again, I am,
Cordially, yours,

Wm. Gerig.

To Hon. Franklin K. Lane,
*Secretary of the Interior, Washington, D. C.*

Mr. McPherson. Permit me to thank the members of this committee in behalf of all friends of Alaska for the sincere and kindly interest manifested by you in the welfare of Alaska and her people and in the rational development of its rich resources so as to result in permanent Alaskan industries and a stable population, the great value of which must accrue to the entire Nation.

(Whereupon, at 6.37 o'clock p. m., the committee adjourned to meet the following morning at 11 o'clock a. m.)

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House of Representatives,
Committee on Territories,
*Friday, July 25, 1919.*

The committee met at 11 o'clock a. m., Hon. Charles F. Curry (chairman) presiding.

Present: Messrs. Curry (chairman), Dowell, McFadden, Baer, Ramsey Brooks, Strong, Watson, Weaver, and Davey.

The Chairman. Mr. Johnson desires to make a statement to the committee.

## STATEMENT OF HON. ALBERT JOHNSON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF WASHINGTON.

Mr. Johnson. Mr. Chairman, I appreciate the opportunity to make a brief statement with regard to the Alaska railroad and the necessity for funds for its immediate completion.

With nearly all citizens in the Pacific Northwest, I favored the building of that great railroad, and with them I now favor placing it in full operation as quickly as possible. I do not agree with some that the present construction has been under good business management, and I think that an analysis of railroad construction in Alaska to date will satisfy all that the Government is not likely to be either economical or speedy in operations of this kind. Proponents of Government ownership of railroads should take notice, however, the road was authorized by Congress and is two-thirds completed, and it is apparent that Congress of necessity must make an appropriation for its completion. No one else can do it. That being the case, there is no need of standing back because some money, in the opinion of many, has been misspent.

Neither is it advisable to authorize sufficient money to complete the road and then pass it out in driblets, for I think there is much to the contention of the Secretary of the Interior that the construction of the road was actually delayed because the annual appropriation ran out in nearly every instance before the engineers in charge could get anywhere in construction.

Out West we have seen the same thing happen in various governmental projects. There is in Idaho, I believe, a notorious case of Federal river improvement, where the appropriation every two years has been just enough to get the work started; when low water came on the appropriation was exhausted and the dredges were hauled back to headquarters to wait for another appropriation. I presume a study of the construction of the three pieces of the Alaska railroad which have been built in the last few years would develop numerous instances of that kind.

I had thought some of making inquiry of various witnesses to be brought before the committee in connection with this bill authorizing an appropriation of $17,000,000, my questions to be in an effort to show that the three commissioners named at the outset to construct the railroad were not at all times in harmony with each other. I thought also we might have an inquiry with regard to the workings of the town site proposition which was authorized in the original act. I believe, however, that if investigations of that kind are to be conducted, particularly with regard to the expenditure of the $35,000,000, that such inquiries might well be made by the House Committee on Expenditures in the Interior Department. Such an inquiry, if held at all, can be held at a later date, when it is hoped there will not be before the House so many pressing legislative matters.

My views with regard to the Alaska railroad, its past management, its prospective management, and the need for its completion are in accord with an editorial which appeared recently in the Seattle (Wash.) Post Intelligencer. That editorial says:

> While Alaska, and all the Pacific Northwest as well, will be keenly disappointed by the failure of the congressional conferees to provide the full amount required for completion of the Alaska railroad, disappointment will be moderated by the knowledge that a great deal may be done with the $2,000,000 appropriation, and that the Government fully committed to the project must ultimately carry it through to success.
>
> Expenditures on the Alaska railroad have already been heavy. In doing what has thus far been done on the project an amount once deemed sufficient for completion has been spent. Charges of engineering blunders have been made, and it seems to be admitted there were at least some mistakes of engineering judgment. Former Delegate Wickersham is sponsor for many other more or less serious charges which are countered by those who have been actively identified with the work. It is not necessary to accept as truthful every detail of the Wickersham accusations in order to perceive the desirability of an investigation of the present status of the project and to set at rest, whether by proof or disproof, the many conflicting rumors.
>
> From what is generally known of the situation it is evident that either a new commission must be named to go on with the work or an entirely different method of construction and administration must be adopted. Even the comparatively small allotment of $2,000,000 should not be dribbled away inconsequentially. What Alaska wants is a completed railroad in actual operation, and the work done to date leaves the Territory considerably short of that achievement. The work should be resumed under competent direction and carried forward in a businesslike way to completion.

Mr. Chairman and gentlemen of the committee, that editorial from the Seattle paper is not ultracritical. It expresses a prevalent view. The people of Alaska and the Pacific Northwest want action. If errors of judgment were made, there can be no harm in so admitting; and such admission will save trouble later. All great engineering projects have suffered more or less from such errors. A further great appropriation must be made, and I think the people would like a reasonable assurance that the construction of the road to completion will be hastened.

Mr. Chairman, I have also an editorial statement from the San Francisco Chronicle of July 19, 1919, entitled, "The Alaska Railroads," with the subhead, "Having made a mess of things, we should straighten them out." The editorial says:

> Senator New of Indiana has introduced in the Senate, and Congressman Curry in the House, a bill appropriating $17,000,000 to build a railroad between Seward and Fairbanks in Alaska. With a laudable disposition to economize, Congress very

naturally makes the cuts in respect to what it knows least about, and where the Members think it will affect the fewest people. Having made a beginning in Alaskan railroad building on a rather extensive scale, it is showing a disposition to quit with its job uncompleted.

The Government should never have appropriated a dollar for building railroads in Alaska, but having driven out the private citizens who had begun the work and taken over construction itself, it should finish the job. And when it has finished it, it should quit and give the people a chance to build up the Territory. The $17,000 000 appropriation should pass.

If the Government had permitted Alaska to develop freely as the rest of the country has developed, the population of the Territory would have been three times what it is now and it would have railroads to give the service immediately demanded.

Now, gentlemen, the people in the West believe that. You must remember that following the great conservation agitation led by Eastern people about everything in Alaska and the far Western States that could be tied up was tied up, and that especially applies to Alaska coal and forests.

The CHAIRMAN. And oil.

Mr. JOHNSON. Yes. Everything of that kind was placed under Federal control, and regulations and law were at once made so that no man with capital would invest a dollar. Railroads were getting under way in Alaska, but languished because those advance and opportunity were all shut off and are still shut off, and while money may have been wasted we still have the railroad two-thirds finished with $35,000,000 spent, and with no one else to build that or any other railroad.

Mr. STRONG. Since we have started this project we ought to put it through?

Mr. JOHNSON. The only thing to do is to go ahead. The Secretary says——

Mr. STRONG (interposing). Is there any doubt about the $35,000000 finishing it? Is that ample?

Mr. JOHNSON. They want $17,000,000 more. Now, that comes to a matter which the engineers can debate. I say frankly if we are as loose with the next $17,000,000 as we were with the $35,000,000 we will not complete the one-third of the railroad needing to be finished with that sum; two-thirds of the road was built in addition to the terminal houses and the yards and the hospitals and model town and the water front facilities, but now in addition to one-third more to complete there is a heavy long bridge to construct and 100 miles of the heaviest and hardest railroad construction.

The acts of God have interfered and will interfere again. A great washout occurred where the entire bed of a river was diverted, as pointed out on the map. That was an accident that might have happened to any railroad, of course.

The CHAIRMAN. It happened to the Southern Pacific Railroad in California a few years ago, and the transportation business for a hundred miles was held up for two weeks.

Mr. JOHNSON. Yes; and I am inclined to believe that the Government owes the Southern Pacific Railroad a couple of million dollars now for promises made then.

Mr. STRONG. I have worked on the construction of a hydroelectric plant where the channel of a river was diverted and washed out a railroad track.

Mr. JOHNSON. This article in the San Francisco Chronicle goes on to say:

> Under private initiative railroads are built only as likely to get a reasonable traffic in the immediate future. The roads are built only to accommodate the early traffic, extensions and betterments being made as demanded. It is said that the Government so far as it has gone has built better than private owners would have built at first, but it has not finished the job. It should finish it, and then put up the roads at auction, take its loss, and get off the lid.

There is much to that statement. The people of Alaska have said that if they are given a chance they can pay the national debt incurred through our participation in the great war. I fully believe that Alaska could pay a great part of it if given half a chance. We western people know what untold millions are out there in resources, and we know also, Mr. Chairman, that every time any measure is proposed looking to the release of anything which is conserved and preserved by the Federal Government, we can not get away with those measures. It is just such things as the Alaska leasing bill that will not release this wealth of coal.

No prospector ever went out into the wilds with his pack on his back, and slept on the rocks, and ate old bacon and dough cakes for a year at a time away from friends and family for a lease right in what he found. No man ever will. No capitalist will put great sums at work in the wilderness, where the hazard is great, and where three lose to one who wins, for a lease and a limited per cent of profit. Two per cent, or 3 per cent, or 4 per cent never allured capital into such ventures anywhere in the world, and never will.

This article goes on to say:

> The Alaskan people do not like Government railroad management any better than the rest of us. In fact they hate Government management of most things. They are sick and tired of the whole Government "regulations" which is depopulating the Territory and preventing its development.

With those two articles I have expressed my views. I have come to the conclusion that the three commissioners sent to Alaska to build the railroad did not realize the magnitude of the project and did not act in harmony. When any one of the commissioners had succeeded more or less in doing any part of his work the other commissioners failed to check expressions either of jealousy or otherwise—it is not for me to say which. Such rumors raged—whether true or untrue, the basis of a tremendous amount of criticism which has prevailed in Alaska and which has reached down the Pacific coast.

I was for the original bill and one of the hard workers for it, and so was the chairman (Mr. Curry) in the writing of and the passage of the bill that authorized the Alaskan Railroad.

The CHAIRMAN. If it had not been for us the bill would not have gone through.

Mr. JOHNSON. Well, we did our bit, but were not for continued Government ownership.

The CHAIRMAN. We stated absolutely that we were not.

Mr. JOHNSON. The Government having blocked Alaska development no private enterprise could ever build a road up there.

Now we must go ahead and we will have to pass this measure. I think it would be a good proposition if this committee could secure the assurance somewhere along the line that a little different plan of business management will be undertaken in the future building of the railroad.

I was sorry to note, Mr. Chairman, that in my inquiries at the opening of the hearing my reference to the witness, a well-known citizen of Seattle, Mr. J. L. McPherson, was omitted by the stenographer, probably from the fact that I talked too rapidly.

I believe Congress would be more willing to authorize this appropriation if it could be assured that a man of Mr. McPherson's ability and knowledge of the Alaskan railroad situation would be made one of the managers, or even a member of the commission for the future construction of this railroad. We have no commission now. Perhaps that is well. Perhaps the three we had would not care to unite again for the work. Each one would know that he was right but he could not say as much for the other two. One commissioner, Col. Mears, went to the Alaskan railroad from the Panama Canal job, which had been completed, and he was given a section of this railroad to build, and I think he made progress in his own way. He resigned and went to war. Another commissioner was Mr. Edes, who had a reputation in California and elsewhere as a prominent railroad engineer and builder.

The CHAIRMAN. And a good one.

Mr. JOHNSON. I think he was a good one. He was given the general management with headquarters, I believe, at Seward. But I think an examination of the records will show that Mr. Edes was in Washington about as often as he was in Seward.

The other commissioner was Mr. Riggs, and how and why he was ever given the appointment as a commissioner to build a railroad in Alaska no western man has yet discovered.

The CHAIRMAN. Was he not on the commission for the fixing of the boundary between Canada and Alaska?

Mr. JOHNSON. He was, I believe. But that would not make him a railroad builder.

The CHAIRMAN. I think that is where he was.

Mr. MCPHERSON. Yes. He was in charge of one of the parties marking the boundary.

Mr. JOHNSON. He was on the Alaskan Boundary Commission. He was in and out of Alaska in connection with that work. Then he was placed on the Alaskan Railroad Commission. I suppose he was the route maker. One day he bobbed up in Washington and took a hand in an effort to pass legislation to provide more liberal shooting and game laws in Alaska. Alaska's then governor was due for a toboggan slide. Commissioner Riggs was on hand. So got off the commission and was appointed governor of Alaska, all in the space of a few days. For some years past, whenever a Government plumb was about to fall, Mr. Riggs has been right there with his platter firmly grasped with both hands.

The remaining commissioner is Mr. Edes, with his fine reputation behind him, who is now in Washington sick. I must say that I admire his spunk. He was the oldest, he was the ablest, and he was left to carry on the great project—to cover up the blunders—to devise new plans to hold the project together against the adversities of war, with men leaving by hundreds, and with prices of material going up by leaps and bounds. Then the money ran out.

No doubt Mr. Edes hopes that he can go on as the one commissioner and spend the additional $17,000,000 to finish this job. I rather admire Secretary Lane's course in sticking by Edes; but what are we, the members of this committee, to say, when we report out this bill, and undertake to defend it on the floor of the House?

Is there not any way by which we can receive an assurance that railroad builders, live railroad men will be assigned to do this piece of work which the Government has started? If this committee can receive an assurance of that kind it will, after reporting the bill to the House put its shoulders to the wheel and work for its passage.

Mr. DOWELL. Do you think Congress can afford to appropriate $17,000,000 with no commission at all? The testimony shows there is no active commission in charge of this work.

Mr. JOHNSON. I think Secretary Lane should be asked about that. He has said that apparently the work was far enough along so we might need no commission.

Mr. HALLOWELL. Not that, Mr. Johnson, but with the limited expenditure of money, that that money was being expended efficiently for the construction of the road; that if the $17,000,000 additional appropriation were passed then the administrative force to attend to the proper expenditure of that money would necessarily be increased, the war having been the interfering element.

Mr. JOHNSON. We all agree that everything that happened up there can be laid to the war.

Mr. HALLOWELL. That is particularly true, with the exception of Mr. Ede's health.

Mr. JOHNSON. I do not quite agree with the assistant to the Secretary as to the statement of Mr. Lane with regard to the commission. I do not care whether we have a commission again. That is a presidential matter. The President can appoint another commission, but everybody knows if we are going to undertake to do governmental business of that kind we have got to have efficient business management. The public would welcome the appointment of a $20,000 man to finish this job.

The CHAIRMAN. I have been assured, and I think you have been also, that if this appropriation is made there will be a reorganization that will be satisfactory.

Mr. DOWELL. Can we not have that assurance in a public way, in a way that will be of future value?

Mr. JOHNSON. I have received no assurance at all. The Secretary in his statement says the road has been built without a touch of politics. He may believe that, but I can not agree with him, because I am inclined to think that these commissioners, with the exception of Col. Mears, who came from the Panama Canal, were appointed either through political or social pull.

The CHAIRMAN. I do not know anything about it.

Mr. STRONG. If what you say is true that might be an excuse.

Mr. JOHNSON. Well, of course, that is a charge made against all Government appointments. We also know that if you put big men on big jobs they can not do the work in a businesslike way, because of Federal restrictions, and that is an argument against Government control of railroads, to say nothing about the governmental building of railroads.

I think, before the committee reports this bill, Mr. Chairman, it should be prepared to state on the floor of the House as to whether these Government town sites and Government cities are to be continued as such, indefinitely. I have thought we might inquire as to the wisdom of placing legislation in here that would turn those sites out of Government management at the end of a stated term of years. They were constructed; there was necessity for that construction, and they were built full bloom, with hospitals, parks, roads, and everything else, under the authority in the previous act, but whether we want to go ahead with that kind of work is a question. This is a new project.

The CHAIRMAN. Under the previous act nobody said it was going on in perpetuity.

Mr. JOHNSON. Here are things to look into.

Mr. HALLOWELL. It came up largely with the liquor problem.

Mr. JOHNSON. Liquor, prostitution, and police control. It was provided in the previous bill that town sites should be authorized and lots sold on installments and certain tracts reserved.

Mr. HALLOWELL. It was essential.

Mr. JOHNSON. Anyone who will investigate will discover a lot of high-handed stuff that went along as between one town site and another town site, and a man who was not in the town and of the town had mighty few rights along the railroad. See, for instance, what happened among the railroad forces in connection with the labor situation.

I am not going to take further time of the committee, and I am not going to cross-examine the witnesses concerning water that has gone over the wheel. I am for the authorization of the appropriation, but I hope words can be kept in the bill to allow enough money to be handed out each year so that no charge can be made in the future that the work at the high places fell down for lack of funds.

(Thereupon the committee adjourned, to meet Thursday, July 31, 1919, at 10.30 o'clock a. m.)

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COMMITTEE ON THE TERRITORIES,
HOUSE OF REPRESENTATIVES,
*Thursday, July 31, 1919.*

The committee met at 10.30 o'clock a. m., Hon. Charles F. Curry (chairman) presiding.

There were present Represenatives Curry (chairman), Johnson, Dowell, Sinnott, McFadden, Baer, Ramsey, Brooks, Strong, Watkins, Watson, Lankford, Davey, and Delegate Grigsby.

The CHAIRMAN. Gentlemen of the committee, I desire, with the consent of the committee, to insert in the record some extracts from newspapers in different parts of the country approving the construction of the Alaska Railroad and also approving a further appropriation for its completion.

(The matter referred to is as follows:)

[From the San Francisco (Calif.) Mining and Scientific Press, July 5, 1919.]

Congress has been advised that the Alaska Engineering Commission expects to complete the Alaska Government railroad from Seward to Fairbanks in 1921. The cost is estimated at $50,400,000, or at the rate of $73,200 per mile. The mining public will welcome the completion of this important project, which will render accessible a rich and interesting part of the national domain.

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[From the New York Evening Sun, July 2, 1919.]

The Senate Committee on Appropriations does well in insisting on increasing the House allowance of only $2,000,000 for continuing the construction of the Alaskan railway to $12,000,000, even in these hard times. It is a development that will more than pay for itself, and since the Government is financing it anyhow it should be pushed speedily. The committee also appropriates $100,000 to combat the influenza epidemic and $25,000 for development of the herring fishery. These three items are significant in that they pick out the chief pressing necessities—transportation, better public aid in sanitation and social welfare, and encouragement of the fisheries. Given transportation, the mining and allied industries can more than take care of themselves.

Alaska has been somewhat neglected of late, inevitably so during the war, when other matters were more urgent, but the present Congress is in position to resume the interrupted improvements. Now, however, the prime need of this vast territory (over 580,000 square miles) is transportation; railroads to supplement its magnificent river routes, to open up not only its gold fields but its copper, coal, and other mineral wealth, the total of which is enormous, beyond computation. Even under the vagueness of general knowledge there is no need to argue about Alaskan mineral riches.

Less known to the average citizen, but possibly of even greater importance, is the food supply that may be drawn from Alaska, especially from the fisheries. A few years ago the Alaskan shipments of salmon and other fish amounted to over 30 per cent of our total fisheries; to-day they are doubtless more, and they can be almost unlimitedly increased. Nor is Mr. Stefansson's advice as to use of the Arctic countries to raise a meat supply at all fantastic. Very little intelligent encouragement has been given to food-producing enterprises. More should be done in all possible lines.

There is also room for much private and governmental effort toward social welfare, protection of health, education, and the amenities of life. Medical aid is particularly needed in the North, as Dr. Hudson Stuck, archdeacon of the Yukon, points out in an interesting article in the current Scribner's. There is but one hospital in the whole Arctic territory to care for a population already much larger than most readers suppose and steadily growing. Here is a chance for individual effort, but the Government itself should act, and act liberally. We can afford to deal generously with Alaska.

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[From the New York Times, June 14, 1919.]

### WANTS ALASKA OPENED UP.

One of the best measures of industrial readjustment that Congress could adopt would be to vote the sum necessary for completion of the Government's Alaska Railroad from Seward to Fairbanks. This road will open up the coal and oil fields south of the Alaskan range, the copper belt in those mountains, the agricultural districts of the Copper River Basin, and would shorten the journey to the Tanana and Iditarod River gold fields.

The actual period of development of Alaska should open with completion of this railroad. It should reduce the cost of mining machinery and supplies in the Tanana Valley to a point where great areas of placer ground which now are untouched can be mined at a profit and where quartz mines can be developed. The railroad will connect with river navigation at Fairbanks and will reduce the distance to all points on the lower Yukon. Application of the general leasing bill to Alaska will do away with the present impractical law and stimulate mining to the point where coal from the North will be sold in Portland and all other Pacific coast markets.

But Alaska can not make real progress until it has a real government. Authority is now divided among subordinates of half a dozen different departments, but is so limited that they must refer practically everything to Washington for decision. The rational plan is to vest all authority in a resident commission under the direction of one department, as proposed by Secretary Lane. Alaska is the last West in which American pioneers can explore under their own flag, and it should be thrown wide open.

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[From the Baltimore (Md.) American, June 9, 1919.]

## THE HEART OF ALASKA.

One of the big schemes brought to a standstill when the United States enlisted in the great war was the construction of the Alaskan Railroad from portage on the south coast to a connection with a region 400 miles inland. When operations were shut down about 252 miles of the road had been constructed—there is an extension of about 185 miles yet to be built. The road will connect with and form an outlet for mining industries—copper and coal, not to mention gold—but there is a strong faith among pioneer Alaskans that a time is coming when Alaska will be an immensely important farm and stock-breeding region—no bluff about it.

This Alaskan Road extending up the Tanana Valley and up to an eventual connection with the upper waters of the Yukon River will, in time, become a grand scenic highway for tourists. It leads past ancient glaciers and through a region of mountains and valleys more picturesque than Switzerland. But those who are staking large expectations on the future of Alaska are not placing a high valuation upon such an erratic business as tourist travel.

They believe that Alaska is going to attract a large population because it can sustain a large population. The railroad, they believe, will serve in time a farm region just as much standardized as the farm business of Ohio or Indiana. Alaska, they insist, has a better climate than Russia in the Petrograd latitude or than Norway or Sweden in any latitude of those countries.

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[From the Chicago (Ill.) Post, June 6, 1919.]

## THE RETURN OF THE REINDEER.

To most of us the reindeer is little more than a fabled animal, associated in our minds with Christmas cards and the never-old legends of Santa Claus.

But the other day we saw an advertisement in a Minneapolis newspaper quoting reindeer roasts and steaks at prices little higher than we have been paying for prime beef.

A score or more of years ago the United States Government imported a few head of reindeer from Siberia and set them grazing in Alaska. They continued the importations until 1,280 head in all had been brought over. Now there are 140,000 head of tame reindeer in the territory, constituting more than 100 herds, and Alaska, that once imported thousands of tons of beef, is now exporting reindeer meat.

The success of the United States Government has encouraged the Canadian Government to give support to a like venture. An American concern has obtained grazing privileges on a territory of 75,000 square miles in northern Manitoba and adjacent regions, for a period of 30 years, and the reindeer will soon become a factor to be reckoned with in the live stock of the Dominion and its meat an item in the markets of Chicago, if expectations are realized.

The reindeer is a self-feeder. All he needs in order to thrive and fatten is grazing ground. He cares for himself summer and winter without special diet or shelter. Herders are required to keep track of him, and that is all the attention he demands. In Alaska the natural increase of the herds for a score of years has maintained an average of from 17 to 20 per cent. Not a single year has been marked by failure.

We have never tasted reindeer meat. We are told it is good, delicate, and tender. Like other game food, it may not be suitable for a steady diet. But any enterprise that adds to the world's food resources deserves encouraging. Hence we say, welcome the return of the reindeer.

[From The Daily Alaska Citizen, Fairbanks, Alaska.]

## "Alaska Can Pay the Nation's War Debt."

### HISTORICAL.

The fourth judicial division of Alaska is the "interior" of the Territory, broadly speaking, and contains almost innumerable gold placer mining camps ranging in rank from the vast placer fields of the Tanana Valley to lone creeks, operated by small, isolated bodies of miners. It is probably safe to say that no more remarkable gold placer mining country is found in any part of the world. For hundreds of miles placer gold is found in paying quantities at various places, while between each of the camps where commercial gold is being extracted run countless creeks, all of which show more or less "prospects." It is estimated that the total production of gold from the gravels in this division in 1916 was $7,000,000.

Fairbanks, a city of about 3,500 population, is the chief town of the division and the Government headquarters. It is situated in the Tanana Valley, close to the richest gold-bearing creeks, at 65° north latitude. It is on the bank of a branch of the Tanana River about 280 miles above the junction of that river with the Yukon. It can also be reached overland from Cordova or Valdez by stage; is distant from the former 448 miles and from the latter about 370 miles.

For hundreds of miles north and south and east and west from Fairbanks are found important mining centers. Chief amongst them are Iditarod, about 350 miles southwest, as the crow flies, from Fairbanks; Koyukuk, about 200 miles north; Brooks, in the Tolovana, about 100 miles north; Hot Springs, on the Tanana River, between Fairbanks and Yukon; Ruby, about 250 miles to the westward, on the Yukon River; Circle, about 100 miles northeast; and Nenana, the center of the coal fields and of the work on the Government railroad in the interior, about 60 miles southwest of Fairbanks. Between each of these large camps and Fairbanks, and also beyond them, are numerous smaller camps and settlements, such as Innoko, Poorman, Kantishna, Fort Yukon, Eagle, Rampart, Tanana, Tolstoi, the Chandlar, and others, each of which is the center of more or less important and extensive districts in which are carried on gold-placer mining, fur trade, agriculture, and other industries of local importance. It has been said that within a radius of 200 miles of Fairbanks in all directions a creek can not be found in which "colors," gold prospects, can not be obtained, and hardly a year has passed since the discovery of "pay" in the Tanana Valley in 1903 without a new discovery of gold in paying quantities of some new creek in the district. The possibilities for the future may be gauged by the fact that the Tolovana camp, which was discovered only a couple of years ago and which is only about 100 miles by air line from Fairbanks, is expected to produce this season nearly $1,000,000. When the immense area of gold-bearing territory, the small population, and the difficulties confronting prospectors are taken into account, the belief becomes inevitable that many discoveries of paying gold will be recorded in this part of Alaska in the future. The difficulties may be shown by the fact that some of the districts, and even creeks, which are now producing large quantities of gold had been prospected at periods for years before the pay streaks were discovered. An estimate of the gold output of the principal camps in the division for 1916 is as follows: Iditarod, $2,000,000; Fairbanks, $1,750,000; Ruby, $800,000; Hot Springs, $750,000; Tolovana, $700,000; Koyukuk, $300,000.

### MINING REPORT.

The Territorial mining inspector, William Maloney, in his report of the mining conditions in the division for 1916, brings out the following facts: In 81 placer and 10 quartz mines inspected in the Fairbanks district, 650 men were found employed.

The Fairbanks district has produced $60,800,000 during the 14 years since its discovery. Lode mining was begun in 1910 and since that time has produced gold to the value of $1,118,000. Other minerals produced in the district are antimony, tin, scheelite or tungsten, silver, and lead, having a total value of $312,340. In 1916, 1,460 tons of antimony ore were shipped.

Several small auriferous lode mines were operated in the district in 1916, and gold to the value of about $50,000 recovered. (Mr. Maloney concludes this part of the report by expressing the opinion that the construction of the Government railroad and the establishment of an experiment station will cause greater lode development.)

Seventeen properties were operated in the Tolovana district in 1916. The freight rate from Fairbanks is $65 per ton.

In the Hot Springs district about 16 placer mines, employing about 300 men, were operated.

Circle district, including Birch Creek, Beaver Creek, and others, had about 200 men employed in about 50 mines.

The Rampart district produced about $30,000 and the Eagle district produced about $20,000. About 300 men were employed in the Ruby district. Eleven placer mines, four steam-scraper plants, and three dredges were operating in the Iditarod. Approximately 400 men were employed. In the Innoko district 150 men were employed in 1916 and the output was about $160,000. The output of the whole basin of the Kuskokwim River is estimated at more than $2,000,000.

### GROWING SEASON.

Observations at Rampart during the period from 1906 to 1910, inclusive, shows the length of the growing season to range from 84 to 107 days, and at Fairbanks, for the period 1908 to 1912, inclusive, to range from 77 to 132 days. Owing to the length of the summer day, this period of freedom from frost is comparable to a much longer season in lower latitudes, such as are thought necessary for agriculture in the continental United States. There is really no darkness in midsummer at this latitude. The long duration of sunlight adds very considerably to the growing season a act which in some measure explains the crop possibilities of this far northerly region almost bordering the Arctic Circle.

The records show that on the Yukon River the break-up of the ice usually occurs about May 12. The freeze-up occurs near the last of October or the first of November.

### VEGETATION.

The greater part of the Tanana bottoms and, indeed, of all interior Alaska is timbered. Spruce, aspen, birch, cottonwood, and willow are among the chief growths.

### COMPARISONS.

Some people don't believe that Alaska can pay the Nation's war debt. Some people don't believe that Alaska wants to pay the Nation's war debt. But Alaska can and does. And here is how it can be done:

Alaska has 586,400 square miles extending from the fifty-fourth degree of north latitude to the seventy-fifth degree of north latitude. As the Citizen has previously shown, this is an area greater than 20 of the 48 United States.

Its taxable wealth to-day is less than that of the smallest State in the Union.

Its potential wealth is greater than that of the 20 States referred to.

If properly developed, that wealth produced from the bowels of Mother Earth, dug up out of our hills, will, if the income tax collector does his duty, pay off the Nation's war debt.

But because Alaska is in the so-called Frigid Zone there are those who believe it uninhabitable, inhospitable, impossible. We who live here know the truth—we know how delightful are its long summer days and its moonlit, winter nights. We would not exchange our lot with the pale-faced anemic cliff-dwellers of the cities of the States. We pity them. We know how the burden of this war debt will weigh them down and impoverish them for generations to come. Therefore, we want to pay the debt and release them. And we want them to come to Alaska and partake of its sunshine, fruits, and flowers, and dig independence and riches and comfort out of the everlasting hills. We want them to help us build up our great cities and our great institutions.

And so that they may know that Alaska's promises are promises that will be fulfilled, the Citizen wants to point out that European countries, situated as Alaska is situated, between the same degrees of latitude, having the same climatic conditions, have cities as large as San Francisco and Los Angeles, and Chicago and St. Louis; produce annually billions of new wealth; have railroads and factories and farms and mines, just as Alaska is bound to have them under a policy of intelligent State assistance.

European Russia has, in its northernmost Province, Archangel, which embraces practically the same latitude as lies between Fairbanks and Point Barrow, 326,063 square miles, supporting a population in 1912 of 462,500.

Olonetz, embracing the equivalent latitude, lying between Anchorage and Fairbanks, has an area of 49,355 square miles, supporting a population in 1912 of 454,500.

Petrograd, embracing the same latitude approximately as from Juneau to Copper Center, has an area of 17,226 square miles and in 1912 a population of 2,949,000.

Vologda, extending from 60° to 65° north latitude, or about the same latitude as lies between Seward and Fairbanks, has 155,265 square miles and 1,678,000 population.

The five Provinces named, all lying wholly within the same degree of latitude as peninsular Alaska, have a total area of 547,909 square miles and a total population of 5,553,000. Less area than Alaska and more than 100 times as many people.

Ten other Provinces of Russia, all of which lie well to the northward of Alaska's southernmost latitude, embrace 353,967 square miles and have a population of 19,052,200.

All of Russia's largest cities lie within the 15 Provinces above referred to.

The same region embraces substantially one-tenth of the total railroad mileage of Russia, and one branch runs farther to the northward than Fairbanks.

This region comprises nearly one-half of the total area of Russia in Europe, and nearly one-fifth of its total population.

All of Sweden lies north of 54° and by far the greater part of it north of 60°, the latitude of Seward—yet, Sweden, having only 173,963 square miles, in 1910 had a population averaging 31 per square mile, or 5,522,403. It had in 1910, 8,643 miles of railroad and one line extends from 55° north to 69° north, over 1,200 miles in all from Malmo to Gellivare.

The value of the agricultural produce of this "European Alaska" in 1913 was 336,800,000 kroner of which—

| | Bushels. |
|---|---|
| Wheat | 9,106,624 |
| Rye | 21,816,304 |
| Barley | 15,388,728 |
| Oats | 80,981,176 |
| Mixed grain | 18,289,704 |
| Pulse | 1,233,000 |
| Potatoes | 683,727,000 |

The value of this was 336,800,000 kroner and only about one-third of the $897,700,000 total of agricultural products.

Her exports in 1913 amounted to $219,000,000.

Norway lies entirely within the latitudes approximately marking the locations of Juneau and Wiseman. It has a railroad terminus as far north as Bettles. Its area is only 124,129 square miles. Its population in 1910 was 2,392,698 or 18 to the square mile. One-third of the total area lies within the direct rays of the midnight sun, yet wheat, barley, rye, oats and potatoes are grown and the yield of different kinds of grains per acre is large compared with that of most European countries.

In 1910 there were in Norway 176,402 horses, 1,139,079 cattle, 1,400,703 sheep, 288,351 goats and 344,957 swine, beside 142,643 reindeer.

## AREA.

To appreciate the resources of Alaska, it is first necessary to get a correct idea of the size of the country, to acquire which the following comparisons may be an aid. The first table shows the area of the 13 original States of the Union, when it first became a Nation, with others on the Atlantic border, added to make up the area of Alaska:

| | Square miles. |
|---|---|
| Delaware | 2,050 |
| Pennsylvania | 45,215 |
| New Jersey | 7,815 |
| Georgia | 59,475 |
| Connecticut | 4,990 |
| Massachusetts | 8,315 |
| South Carolina | 30,570 |
| New Hampshire | 9,305 |
| Virginia | 42,450 |
| New York | 49,170 |
| North Carolina | 52,250 |
| Rhode Island | 1,250 |
| Maryland | 12,210 |
| Total | 325,065 |
| Maine | 33,040 |
| Vermont | 9,565 |
| Ohio | 41,060 |
| Indiana | 36,350 |
| Tennessee | 42,050 |
| Kentucky | 40,400 |
| Michigan | 58,680 |
| Total | 586,210 |
| Alaska | 586,400 |

Or if we compare it with European countries we have the following:

| | Square miles. |
|---|---|
| Norway | 124,445 |
| Sweden | 172,867 |
| Finland | 144,255 |
| England | 58,309 |
| Scotland | 29,785 |
| Ireland | 32,583 |
| Total | 562,253 |
| Alaska | 586,400 |
| Or as follows: | |
| Germany | 208,670 |
| France | 204,092 |
| Spain | 197,670 |
| Total | 610,432 |
| Alaska | 586,400 |

Here we have an area covering 20 States of the Union, which extend from the winter resorts of Florida to within a few miles of the St. Lawrence River and Quebec, where navigation is closed in winter, and from the shores of the Atlantic to the Mississippi River. If the map of Alaska is placed over that of the United States, with Ketchikan in Alaska on Jacksonville, in Florida, the western island of the Aleutian chain will be found at Santa Barbara in California; from south to north it extends over 1,000 miles of latitude from the Mexican to the Canadian borders; and from the east to west over 2,500 miles of longitude.

To generalize on the climate and possible resources of such a diversified region is impossible, if it is wished to convey any idea of how it should be developed, just as it would be for any equal area between the Mississippi and the Atlantic, with all kinds of climate; vast plains and rugged mountains; producing timber in some sections, cotton, sugar, and tobacco in others, and diverse commercial interests. Such a region must be divided into districts of similar products and requirements, and so it is with Alaska.

### ALASKA CAN PAY THE NATION'S WAR DEBT.

The scoffers about the country who do not believe that Alaska can pay the Nation's war debt had better change their line of talk or be hopelessly out of it. The letter received from Mr. Ryan, representative of Secretary Lane, tells about the conditions as they appear to an eyewitness traveling through from the interior to the coast. He tells about the possibilities that are apparent to the person traveling through the country, and if there is even a minimum of fact to back up what he sees, surely "Alaska can pay the Nation's war debt."

The time is fast approaching when it will be out of fashion to scoff at the opportunities that are to open up in Alaska. The West is noted for the enthusiastic optimism which it lavishes upon its natural resources, and there is only a small reason for it compared with the foundation that is furnished by the natural resources of this Territory. The majority of the people in Alaska came from the western, the coast States, yet there are a goodly proportion of them who look with profound pessimism upon everything in the line of boosting for Alaska. Did they leave all their spirit of boost behind them when they came north? Or can it be possible that they prefer that coast country to the northland that they picked as their home? Perhaps they did not come here with the intention of staying here, perhaps it was only for the purpose of getting what they could out of the country, and then leaving it for some clime that they liked better. If they left their boosting spirit behind them, they had better dig back into their past and unearth it, for they will soon need it badly. If they prefer the coast to Alaska, why do they stay in Alaska? Why don't they go to the country they prefer? If they came here with the purpose of skinning the country for what they could, and then leaving for the place they like better, we have no sympathy with them because they have failed in their purpose. We will not waste words trying to express our contempt for them.

Alaska can pay the Nation's war debt, and it will only take a minimum of investment on the part of the Government to make this entirely possible. There are facts and figures to prove it possible, and unlimited possibilities once it is started. Everyone must put their shoulders to the wheels and push as never before to bring about that era of prosperity that will accompany the development of the country. Alaska can be helped in her development immeasurably by the Government by simply following through a continuation of the policy started in the building of the railroad. A step or two more along the same general principles will do the trick, and the greatest land of opportunity will be opened for the people of the United States. The Government must be shown how and what steps to take to hasten this development, and what is more natural than that Alaskans should point out the way? Alaskans for Alaska, and Alaska will pay the Nation's war debt without question.

### ALASKA'S JUST DUES.

When Alaska makes a request for the Government to aid in the development of her resources she is not making an unreasonable demand, but is simply making a plea that is based on what is due her in all justice. She is merely asking for her just dues. There are two sound and just reasons for making the claim that she is merely petitioning for her just dues. In the first place, most of the territory's taxable wealth has gone outside. Practically all of the original money that was made in the early days of the gold rush has been taken out of the country since that time by the men who made it, and is now taxable wealth in the States. If it had remained in the Territory it would be subject to taxation here, and would thus furnish the Territory with her own funds for any such purpose.

Many millions of dollars have gone out of the country in this way. In the early days there were thousands of men who came to the scene of the big gold rush to make their fortunes and a great many of them were successful. After the big excitement was over they returned to their homes outside, taking immense sums with them wrested from the bosom of the Territory. So on this count alone Alaska is entitled to help from the Government now, when she is in need of the means for developing the resources of the Territory.

The second reason is that practically all the working capital that was in the country at the time that the United States entered the war has been placed at the disposal of the Government, and is thus not available for use at the time when it is most needed. The call for money from the people has never been in vain when it reached Alaska. The people of the Territory heard the call of the Government, and answered to the extent that now when they need working capital it is not here, but is in the hands of Uncle Sam. The Liberty loans were marked successes in this country. In the fourth and greatest of them all Alaska was the first "over the top" with its quota, and this quota had been raised from what it had been in the other loans because it had been found that Alaskans were such free givers. In other words, Alaskans came through with such a punch in the first three loans that when it came to the fourth loan the per capita quota was raised because of the apparent ease with which the other three loans had been met.

The Territory placed all its available cash at the disposal of the Government in the emergency caused by the war, and now when her own emergency comes up she has no working capital. Therefore it is no more than fair that the Government should be asked for what is practically a loan to help in the development of the vast resources of the country. The initial loan will be repaid many times over in the revenue that will come from the property that will be opened up, and the Government will be doing no more for Alaska, the last new country of the Nation, than it has done for the other parts of the land as they developed.

More than merely developing the country, the Government, through this comparatively small loan, will accomplish an end that could only be accomplished otherwise by a great burden of taxation upon the people outside, namely, paying the Nation's war debt. By aiding the development of the territory's vast and rich resources, the Government will make it possible for the Territory to pay the debt that the Nation owes, without undue strain upon any of the people, either of the Territory or of the States proper. This is no idle boast, but is based upon sound reasoning, from facts and figures drawn from the small percentage of mining property that has already been developed through private enterprise. The Kennecott mine that paid a special war tax of about $2,300,000 is a sample of what may be expected from the Territory in the way of revenue for the Government. This mine in question is only one of many such properties, all of which will yield enormous returns once they are opened and developed. If one mine can pay such a tax, and a special tax at that, what would be the result if there were hundreds of similar properties all paying regular yearly taxes in the same proportion? The answer is almost breath-taking, but it gives the foundation for the claim that "Alaska can pay the Nation's war debt" if only the Government will give the Territory her just dues

### WHAT IS GOVERNMENT?

Some one has likened government to a factory. The output of government is taxable units. An enlightened government devotes itself to the production of taxable units. The people composing a government are creators of the national wealth. A government which circumscribes the opportunities of its people to create wealth is a moribund government. A government which develops and encourages the creation of opportunities to increase the people's wealth is a progressive government—a profitable government. Jefferson said: "All just governments derive their powers from the consent of the governed." He might well have added: "A prosperous government aids the governed in their industrial development, thereby deserving and obtaining their consent to be governed."

Our Government has adopted the income tax to produce its revenue. The larger the incomes of the governed the greater the revenue of the Government. Alaska just now, owing to the war and to other well-known conditions is not providing incomes for taxation. But Alaska can and will provide enormous incomes for taxation if the Government will aid in the development of its industries.

Alaska's enormous resources are undisputed and unquestioned. A policy of conservation has withdrawn them from utilization by the people as they were once available. It therefore becomes the duty of the Government, having prohibited private capital from making the most of Alaska's resources, to itself provide the means for developing them.

A conservation which hoards but does not utilize is in reality waste. A conservation which utilizes for useful purposes is provident.

Let us therefore be not reluctant to request of our Government that it shall develop the natural resources of Alaska since it will not allow private capital to do so. Let us seek it as a right. But let us also prove to our Government that such a policy of development is not only wise and provident, but profitable and essential as well.

A great war has brought about almost a cessation of productive effort in Alaska. But that war has fastened upon the backs of the American people an enormous load of debt. With no new resources of wealth developed, that debt will be a burden to at least two generations of the American people. By the intelligent development of Alaska's resources many billions of new wealth will be created during that period. The taxation of this wealth will go far toward relieving the American people of the burden of the war debt. This is a business proposition—not a potlatch. All Alaska asks is Government aid in the development of its latent wealth. It will pay back every dollar invested and in addition "Alaska can pay the Nation's war debt."

### THEY DO IT, SURELY WE CAN.

From the interesting facts contained in the booster advertisement in the Citizen, this significant conclusion may be drawn. These European countries, situated in the same latitude as Alaska, and facing the same climatic conditions, support enormous populations. They do this in spite of the fact that they carry on agriculture with rude, unimproved farming implements without the modern machinery that has so improved the farmer's outlook in this country. They do this in spite of the fact that they have not the enormous mineral resources that are known to be in Alaska, and yet the pessimist would have us believe that Alaska is no white man's country, but is fit only for Eskimos and Siwash Indians.

But just consider this statement. These northern European countries have been populated for generations. While men have lived in them, and have carried on their crude agricultural pursuits, raising crops more than enough to support themselves, they do not have the mineral wealth buried in their hills and valleys that is found in Alaska, but their wealth is gained from the soil by crude and unimproved methods at that.

Think of the possibilities that are ahead of Alaska in the light of this statement. Alaska has not only the agricultural lands, but it also has a wealth in mineral resources, that has been barely scratched, and that will yield returns that are almost impossible to estimate. There are thousands of acres of farm land waiting to be put into use. After the mining industry becomes active again the farming will follow, for it will be necessary to support the mining population. As the mining develops, the market that is now lacking will be furnished for the farmers, and his produce will begin to yield him the big returns that it should, as it does in other farming countries.

These northern European countries support a population that is large—enormous compared with Alaska—and they do it almost entirely by agriculture, without the mineral wealth that abounds in Alaska. It is such comparative figures as these that point the way for the future of the Territory. They give us foundation for the statement that "Alaska can pay the Nation's war debt." If they can support a big population without the vast wealth in gold and other minerals that is to be found in this Territory, surely Alaska can not only support a great population but it can do more than this—it can pay the Nation's debt that came as the result of the war. If they can raise produce to the values that are given in the facts about these countries, surely Alaska has foundation for a request that the Government extend aid to its development, especially since it can return such great values into the Government Treasury that they will pay the war debt without strain upon the financial resources of the other sections of the country. "Alaska can pay the Nation's war debt."

### INTERIOR ALASKA PRESENTS UNEXCELLED FARMING OPPORTUNITIES.

Until in recent years the mention of an Alaskan agricultural industry, in average "outside" circles, was greeted with astonishment and incredulity. The "land of perpetual ice" myth, propagated largely by pseudo-Alaskans, has injured the North more than most northerners realize. It has kept hundreds and probably thousands of settlers away from Alaska.

But the everyday accomplishments of the Alaskan engaged in agricultural pursuits are rapidly upsetting preconceived ideas and long-established prejudices regarding climatic and soil conditions in the North. It is only necessary to get the truth of the situation before men who are looking for better advantages in the agricultural industry than they can obtain where they are now located in order to fill this country with bona-fide settlers.

Reliable estimates, obtained from Government survey records and other authentic sources show that there are 100,000 square miles of agricultural lands, or which are suitable for agricultural purposes, in the Territory of Alaska. In the interior, from Richardson, on the upper Tanana River, to Nenana, the present interior headquarters for Government railway construction work, it is estimated that there are 12,000 to 14,000 homesteads available on land second to none for farming. And this is only a small part of the land available. The entire Tanana and Yukon valleys are almost practically untouched and have been proven conclusively to contain valuable agricultural lands.

While potatoes and root vegetable crops have received the most attention from settlers in the recent past, the grain crops—wheat, oats, barley, and rye by their importance have pushed themselves to the forefront as offering the best paying harvests which can be had. All of them can be used for stock feed, and wheat and rye grown in Alaska have been demonstrated to be the best of bread-making materials obtainable on local markets.

Wheat can be and is to-day being cultivated successfully in Alaska, and especially in the Fairbanks district. Both wheat and rye are adapted to the Tanana and Yukon valleys, as has been shown by actual crops. Several varieties of wheat have been grown, but a Russian hybrid successfully produced by the United States Agricultural Experiment Stations is the one most used. It is grown both on hillside and valley lands and produces from 15 to 36 bushels per acre. Successful harvests have been produced during the past five seasons, including that of 1918, which is shown by Government meteorological records to have been the shortest season in the history of Alaska. The Citizen is therefore convinced that the future of the Alaskan wheat crop is assured.

Fairbanks-grown wheat is now used for milling in making graham bread. It is proposed to bolt the product during the coming season and use it for white bread. The Fairbanks bakers have been unable to meet the local demand for this bread, and themselves are unable to purchase sufficient home-grown and home-milled wheat to supply their wants. All bakers using the home product are a unit in pronouncing it the best ever to be had in their northern experience. All farmers in the Fairbanks vicinity will grow a largely increased acreage during the 1919 season.

Any common variety of rye can be grown in the interior. It yields from 15 to 20 bushels per acre. It can be counted on by the farmer as a successful crop. It is in especial demand for bread making and gives excellent satisfaction.

Hardly second in importance to wheat are the oat and barley crops of the interior. Upon them the country is to a large extent dependent for its stock feed. Both have been proven conclusively to be successful.

The Canadian oat is mainly used. It was first brought into the Fairbanks district in 1914 by a former superintendent of the local agricultural experiment station. The first and only shipment of the seed consisted of one teacupful. From that, seed for every farmer in the district and numbers in outlying districts has been produced and thousands of tons of oat hay produced.

Oats yield from 40 to 80 bushels per acre. They are the farmer's first year crop. The wonderful growth they attain the first season aids the farmer in his land clearing and makes it possible for the beginner to get good returns. The yield of oat hay varies with the season from a ton to a ton and one-half per acre having a variable value of $90 to $110.

Barley is equally as successful as the oat and wheat crops. It is the principal hog feed together with potatoes and field peas. It is an especially good feed for bacon hogs. The stock food problem is adequately taken care of by these crops.

### OTHER CROPS.

All root crops—carrots, parsnips, turnips, and others—are heavy yielders and of superior quality. They have especial value for live stock and dairy purposes. All of them can be depended on in interior Alaska in any kind of a season.

Potatoes for years have been a good money crop for the interior farmer and they will continue to occupy an important place in the agricultural industry in the future. There are at least 12 varieties which are well adapted to this soil and climate and can be absolutely depended upon for yields. Their quality is second to none in any country. The average yield for the interior of Alaska is approximately 5 tons per acre with record yields of double this amount. As many as 40 varieties have been produced at different times, but some of them were not adaptable for all soils.

### CLOVER FOR SOIL BUILDER.

The Fairbanks Agricultural Experiment station has done the country a service in its experiments with clover crops. White clover and alsike clover have been demonstrated to be successfully adaptable to the soil and climate. Both have a wonderful growth the first year. Red clover is also a prolific grower, but is killed off by severe winters. Its use as a soil rejuvenator has produced marvelous results and by using it in a four-year rotation with other crops it has been of inestimable value.

### LIVE STOCK.

The raising of live stock has not been tried on a large scale, but experiments in a small way have been uniformly successful. This industry is to be enlarged as soon as funds for the purpose are available. There are thousands of acres of the finest grazing lands available in the Tanana Valley for sheep-raising purposes. The local experiment station expects to begin its experiments in this industry within a short time.

### THE WORK OF THE STATION.

No article on the agricultural industry of interior Alaska would be complete without some mention of the Government's agricultural experiment station located near Fairbanks. It has been the mainspring of the industry and the success which has been attained is in a large measure due to this institution. It takes known seeds of other parts of the country, and of other countries, and by a series of cross breeding, through the process of elimination and selection, produces seeds which are suitable for the Alaskan climate and soil.

It has produced a successful wheat which is destined to make this section a marked wheat producer. Other grains have been developed which are uniformly successful. It furnishes seeds which have been definitely established as adapted to Alaskan conditions to farmers throughout the interior. It engages in cooperative work with interior farmers and is largely instrumental in keeping alive and progressive the general farming industry.

### THE INDUSTRY A SUCCESS.

Summing up the interior agricultural industry, it has been definitely established by practical farmers that it is a success. Not only can crops be grown for a market, but every farmer can raise diversified crops which prevent the glutting of the market on any one staple commodity. Everything neded for the support of the family can be grown on the farm, including wheat for bread and stock for meat.

There is an established market for the production. This market is bound to increase yearly. At the present time the Fairbanks market is larger than can be supplied by the industry. Leading members of the farming interests estimate that the present market will sustain at least 500 more producers. In other words, there is room in the Fairbanks district to-day for 500 farmers. And the homesteads for these men await their coming.

The market will be extended to the States within a short time. The Government railroad is now two-thirds completed. With its completion Fairbanks will be in close touch with the coast and easy transportation to "outside" markets. In no country can land be secured as easily as this. In no other land are there such opportunities as await the settler here. And the agricultural industry is one of the richest fields awaiting development in the great North.

### WHAT OF OUR MINES?

Alaska can pay the Nation's war debt, the slogan advanced by the Alaska Citizen, is enthusiastically indorsed by the most substantial and conservative mining men in this district. It is backed by the opinion of the Tanana Valley Chapter of the American Mining Congress, a committee from which organization has just completed several months' exhaustive study of the district in connection with latent mineral resources now undeveloped because of the present high cost of operations.

This committee submitted the following report of ground available for dredging purposes, the value of which is proven beyond criticism.

Cleary Creek and tributaries: Cubic yards, 96,650,000; value per yard, $0.44; gold contained, $42,640,000.

Goldstream and tributaries: Cubic yards, 89,200,000; value per yard, $0.45; gold contained, $40,210,000.

Ester Creek: Cubic yards, 23,300,000; value per yard, $0.50; gold contained, $11,650,000.

Dome: Cubic yards, 3,750,000; value per yard, $0.40; gold contained, $1,200,000.

Fairbanks Creek: Cubic yards, 6,000,000; value per yard, $0.70; gold contained, $4,200,000.

Total cubic yards, 218,900,000; average value per yard, $0.46; total gold contained, $100,200,000.

This takes into consideration only the known gold-bearing ground in the immediate Fairbanks district. This represents only a very small proportion of Alaska's mineral resources. It leaves untouched the big undeveloped Mount McKinley region, which is known absolutely to be highly mineralized. It is only a small part in Alaska's effort to pay off the huge war debt. But even this must remain unworked unless cheap power is furnished from some source.

It contains no reference to the rich Tolovana River country which has been for three years and is still producing more than $1,000,000 annually from placer workings. And only the richest of this ground is being developed as it is too expensive to attempt to mine the lower grade dirt. With cheap power the outputs in the Tolovana region would be greatly enlarged and the permanency of the camp there assured.

There are many other sections of country in the interior of Alaska just as promising as those already being worked. Hundreds of creeks with virgin soil await the prospector's coming. Hundreds of millions of dollars will flow annually into the coffers of the Nation if the necessary cheaper source of energy is provided. Alaska can pay the Nation's war debt but she must have cheap power to do it.

In its report to the Tanana Valley Chapter of the American Mining Congress, the committee charged with the investigation of mineral resources declared, "The question of cheaper power stands out above all other conditions and requirements of the interior of Alaska because it is the one preeminent and imperative need of the mining industry of this vast country, and the key and cornerstone of all future mining development."

With an investment of $6,000,000 the Government, to whom Alaskans look for assistance in securing cheap power, can build and equip a central power station in the Nenana coal fields and construct all necessary feeder lines for power transmission. Such a plant could furnish power at a figure which would put thousands of men to work in interior mines and pay the Government a reasonable return on its investment.

In concluding its report the mining committee declared, "Our Nation at large has present need of all the resources of metal that Alaska holds, but in order to produce them the miner must have cheap power. And, finally, the United States has just emerged from a World War with a hugh debt, for the payment of which she may look to Alaska if the Government will furnish the cheap power that is so immediately and vitally essential."

### JUST REMEMBER IT.

When a person discusses the weather at any length it is usually because he is trying to make conversation, or has nothing better to discuss. It is one of the common topics of conversation, yet its use generally indicates paucity of thought. It may be noticed also, that when news stories are scarce about town, one is quite liable to find a learned and exhaustive treatise upon the weather where ordinarily one would read about how John Smith had come to town from his home in some other place or something equally interesting.

However, we feel moved to discuss the weather, under the circumstances—the circumstances being the unusually and exceedingly mild temper of Jack Frost, upon whose kindness we have to depend for heart-warming sunshine and comfort during Old Sol's annual visit to the South. It will be a good thing to remember, a few months from now, when we are telling of the virtues of Alaska as a home place to some doubting Thomas who pictures our Northland as a perpetual snow field, inhabited by Eskimos living in snow igloos, on a diet of blubber and tallow, riding behind dog teams and reindeer, a la Santa Claus. This delightful warm winter that we are enjoying this year is one that will stand comparison with any winter in any climate. The old kickers who are loud with the remarks that this is no white man's country, that it is too cold for civilized folks, had better stop their kicking now, for they will have to swallow their arguments this year. It would be just as easy for them to bear in mind the pleasant weather that we have as it is for them to remember so painstakingly the more severe climatic conditions that sometimes come. Of course if their object is to run down the country, and sometimes they seem to take a very evident delight in so doing, they are perfectly satisfied in remembering everything, even to the smallest detail, that gives them any discomfort. But why, oh why, do they stay in such an awful place? Let them go to Arizona or California, or Florida, or wherever it is that they think everything to be desired may be found in the way of climate. We would be delighted to have them, for certainly their place might better be empty than filled as it is by them—veritable stumbling blocks.

The fact remains that we are having a wonderful winter so far, and the hopeful part of it all is that the sun is now on the northward journey again, the days are getting longer, and very soon it will be impossible for Jack Frost to show even his nose, except possibly at night. We have such a start on him now that he can't do much damage in the line of really severe cold weather this winter. And in spite of the fact that it is not a sign of the highest intellect to talk of the weather, surely it is justifiable, especially when we are writing to those poor benighted souls outside, who wonder how white people ever manage to subsist in this supposedly Arctic region, a land of perpetual snow and ice.

### ALASKA WANTS TO DO IT.

Alaska not only wants to but can and will pay the Nation's great war debt, if allowed to do so, just as the great undeveloped West paid the debt incurred during the War of the Rebellion.

Practically all of that region west of the Mississippi River was undeveloped at the close of that war. The United States bestowed on its soldiers grants of land. They spread out broadcast throughout the west. The opportunities given to them they improved. Farm, forest, mine came into being, and new wealth dug from the bosom of mother earth came into being. That great debt incurred that men might be free gave to free men free access to the land and its yield. That wealth in turn gave birth to great enterprises of transportation and of manufacturing. Great cities sprang up in the land that beforetime was a wilderness. And great increase of population ensued.

"Alaska can pay the Nation's war debt."

The CHAIRMAN. There has been some little discussion in reference to the Alaskan Engineering Commission, and with the consent of the committee I am going to place in the record a short statement of the way that commission was selected.

The original bill authorizing the construction of the railroad placed the construction in the hands of the President of the United States, and he selected the Secretary of the Interior as the executive officer of the Government under whom the work was to be done. After giving the matter consideration they agreed upon a commission of three, and Gen. Goethals was asked to be one of the members of that commission. He declined, stating that he thought he owed something to himself and to his family; that he had just completed his work on the Panama Canal, and that he was going to resign from the Army and going into private practice in order to make some money, and he could not afford to take a position as a member of the commission at the salary which was offered. He was then asked to suggest some one from among the Army Engineers who he thought would be the best man to be put on that commission, and he suggested the name of Col. Mears, and it was at his suggestion that Col. Mears was placed on the commission. Col. Mears volunteered in 1899 and served in the Philippines. He is a graduate of Shattuck School, of Faribault, Minn.; the United States Infantry and Cavalry School; and the United States Staff College.

A number of prominent railroad engineers in the United States were asked to accept one of the other positions on the commission, but they did not seem to care to sever their connections with their roads. The chief engineer of the Southern Pacific Railroad Co. and the chief engineer of the Atchison, Topeka & Santa Fe Railroad Co. were asked to suggest a man who had proper railroad construction experience and proper temperament and a knowledge of handling men to be a member of that commission, and both of those gentlemen suggested the name of Mr. Edes. Mr. Edes had other indorsements, of course. He was selected as a member of the commission.

The other member of the commission is the governor of Alaska, Mr. Riggs. He had been in Alaska for 15 or 16 years and was connected with the Coast and Geodetic Survey, and had been in charge of the survey of the boundary between the United States and Canada from Mount St. Elias to the Arctic Ocean. They wanted one commissioner who was acquainted with the local people up there, and it was for that reason, and because of his connection with the Coast and Geodetic Survey and his work in Alaska that he was selected as a member of the commission. So it seems as though the commission was carefully selected and that the best men possible were obtained.

But the war came on. Col. Mears felt that his duty was in the Army, and so he resigned from the commission and went into the service. Mr. Riggs was appointed as Governor of Alaska. He had been strongly recommended without any request from him to be appointed as Governor of Alaska when Gov. Strong was appointed. So Mr. Riggs was appointed Governor of Alaska.

Later on the strenuous work which had been done by Mr. Edes in Alaska broke down his health, to a certain extent. He is the only member of the commission who is left.

Personally, I think the work has been well done and cheaply done in the face of adverse circumstances. I am just making this statement because there has been some unjust adverse criticism in reference to the commission.

There has been some talk about the estimate upon which this road was originally provided for, the estimate of $35,000,000. I was a committee of one appointed by the chairman of the Committee on Territories to compile that estimate, and I did compile it, and I think if it had not been for the war the work would have been completed within the original estimate and authorization.

While that estimate was printed in the proceedings of the committee during the first session of the Sixty-third Congress, if there is no objection, I will insert in these hearings an epitome of that estimate so that the members of the committee and the Members of Congress may have before them a detailed statement of the estimate of the cost of the different roads in Alaska and in the United States, on which I based the estimate for the construction of the railroad in Alaska.

(The matter referred to is as follows:)

REPORT OF MR. C. F. CURRY.

WASHINGTON, D. C., *September 24, 1913.*

Hon. WM. C. HOUSTON,
*Chairman Committee on the Territories.*

SIR: In accordance with the request of the subcommittee having under consideration H. R. 1739, H. R. 1806, and H. R. 2145, I have collected from the record and other sources and tabulated all available statistics bearing upon the probable cost of the construction of a railway or railways in the Territory of Alaska, as contemplated by any and all of the said bills now pending before the committee, and I herewith submit the same.

Respectfully, yours, C. F. CURRY.

The railroads projected, constructed, and partly constructed by private capital in Alaska are as follows:

Broad gauge:
- Copper River & Northwestern. Line projected from Cordova to Bering River coal district.
  - Constructed and in operation from Cordova to Kennecott, 196 miles.
- Alaska Northern. Line projected from Seward to Tanana River near Fairbanks, 450 miles.
  - Constructed from Seward to Kern Creek, 71.6 miles.
- Council City & Solomon River. Line projected from Penelope Creek to Candle, 100 miles.
  - Constructed from Dickson to Penelope Creek. 35 miles.
- Yakutat (cannery), 12 miles constructed.
- Cook Inlet Coal (not operated), 8.50 miles constructed.
- Katalla (abandoned), 6 miles constructed.

Narrow gauge:
- Tanana Valley, from Chena to Fairbanks, 45 miles constructed.
- White Pass & Yukon, from Skagway, Alaska, to White Horse, British Columbia, 110.4 miles, and from Macrae to Pueblo mine, British Columbia, 71.29 miles—121.69 miles constructed.

Poor's Manuel of the Railroads of the United States, forty-sixth annual number, 1913, contains a history of the roads, amount of rolling stock, capital stock, funded debt, and lists of their boards of directors, and in its report of the Tanana Valley Railroad a statement of its operations for the year ending June 30, 1912, number of passengers and tons of freight carried, receipts, operating expenses, and surplus. It also gives the operations for the year ending December 31, 1911, and for the year ending June 30, 1912, of the White Pass & Yukon Road, but contains no information as to the cost of construction of any of these roads. The information in Poor's Manual was furnished by the railroads, as appears from the preface to the volume.

On the 20th instant I asked the Interstate Commerce Commission to furnish me with all the information in its possession regarding the cost of construction of these roads. On the 23d instant I received the following reply:

INTERSTATE COMMERCE COMMISSION,
OFFICE OF THE SECRETARY,
*Washington, September 22, 1913.*

Hon. C. F. CURRY,
*Room 410, House Office Building, Washington, D. C.*

DEAR SIR: In acknowledgment of your communication of the 20th instant, I have the honor to inclose a statement compiled from the annual report of the Alaska Northern Railway Co., the Copper River & Northwestern Railway Co., and the Tanana Valley Railroad Co., to the Interstate Commerce Commission for the year ending June 30, 1912, showing mileage, total amount of investment in road and equipment, and average amount per mile of road for the several companies.

The commission has no similar reports from the White Pass & Yukon route and the Nome & Seward Peninsula.

Respectfully, G. B. MCGINTY, *Secretary.*

*Statement compiled from the annual reports of the companies named to the Interstate Commerce Commission for the year ending June 30, 1912.*

| Name of company. | Mileage owned and operated on June 30, 1912 (single track). | Investment in road and equipment to June 30, 1912. | |
|---|---|---|---|
| | | Amount. | Per mile of road. |
| | *Miles.* | | |
| Alaska Northern Railway Co | 70 70 | $3,616,800 81 | $51 157.01 |
| Copper River & Northwestern Railway Co | 194 98 | 27,551,715.42 | 141,305.34 |
| Tanana Valley Railroad Co | 44.70 | 2,117,057.21 | 47,361.46 |

The Alaska Northern Railroad, originally known as the Alaska Central, was projected to open up the Matanuska coal fields with Seward as its ocean terminus and Fairbanks on the Tanana River as its inland terminus, a distance of about 500 miles. It has been constructed from Seward on Resurrection Bay to Kern Creek on Turnagain Arm of Cooks Inlet, a distance of 71.6 miles.

On page 413 of the Senate hearings on S. 48 and S. 133, first session, Sixty-third Congress, the following tabulated statement of the money actually expended on the Alaska Northern Railway to November 15, 1911, will be found inserted in the record as a part of a letter from Mr. F. G. Jemmet to Hon. Walter L. Fisher, Secretary of the Interior:

*Money actually expended on Alaska Central or Alaska & Northern Railway Co.*

| | | | |
|---|---|---|---|
| (*a*) Expended to Jan. 1, 1905, as per Winter's affidavit | | $305,232.80 | |
| Interest, 5 per cent, Apr. 1 to Nov. 15, 1911 | | 70,579.70 | |
| | | | $375,812.50 |
| (*b*) Expended after Jan. 1, 1905, as per Winter's affidavit | | 3,623,198.41 | |
| Interest, 5 per cent, Apr. 1 to Nov. 15, 1911 | | 837,802.84 | |
| | | | 4,461,001.25 |
| (*c*) Cost of supplies turned over to receiver | | 572,500.00 | |
| Interest, 5 per cent, from Nov. 15, 1907, to Nov. 15, 1911 | | 114,500.00 | |
| | | | 687,000.00 |
| (*d*) Assessments on bondholders: | | | |
| No. 1, Sept. 14, 1909 | $113,400.00 | | |
| 5 per cent interest to Nov. 15, 1911 | 12,303.07 | | |
| | | 125,703.07 | |
| No. 2, Jan. 4, 1910 | 412,730.64 | | |
| 5 per cent interest to Nov. 15, 1911 | 38,446.10 | | |
| | | 451,176.74 | |
| No. 3, Sept. 5, 1911 | 222,000.00 | | |
| 5 per cent interest to Nov. 15, 1911 | 2,159.17 | | |
| | | 224,159.17 | |
| | | 801,038.98 | |
| Less balance on hand | | 56,772.61 | |
| | | | 744,266.37 |
| | | | 6,268,080.12 |

On page 403 of the Senate hearings the following tabulated statement of the money actually expended on the Alaska Northern Railway to September 30, 1912, will be found inserted in the record as a part of a letter dated March 20, 1913, from the Alaska Northern Railway Co., by George H. Patrick, its attorney, to the Secretary of the Navy:

*Money actually expended on Alaska Central or Alaska Northern Railway Co.*

| | | | |
|---|---|---|---|
| (*a*) Expended to Jan. 1, 1905, as per Winter's affidavit | | $305,232.80 | |
| Interest 5 per cent, Apr. 1, 1907, to Sept. 30, 1912 | | 83,959.02 | |
| | | | $389,191.82 |
| (*b*) Expended after Jan. 1, 1905, as per Winter's affidavit | | 3,623,198.41 | |
| Interest 5 per cent, Apr. 1, 1907, to Sept. 30, 1912 | | 996,628.22 | |
| | | | 4,619,826.63 |
| (*c*) Cost of supplies turned over to receiver | | 572,500.00 | |
| Interest 5 per cent from Nov. 15, 1907, to Sept. 30, 1912 | | 139,595.88 | |
| | | | 712,095.88 |
| (*d*) Assessments on bondholders: | | | |
| No. 1, Sept. 14, 1909 | $113,400.00 | | |
| 5 per cent interest to Sept. 30, 1912 | 17,274.01 | | |
| | | 130,674.01 | |
| No. 2, Jan. 4, 1910 | 412,730.64 | | |
| 5 per cent interest to Sept. 30, 1912 | 56,538.40 | | |
| | | 469,269.04 | |
| No. 3, Sept. 5, 1911 | 222,000.00 | | |
| 5 per cent interest to Sept. 30, 1912 | 11,890.64 | | |
| | | 233,890.64 | |
| | | 833,833.69 | |
| Less balance on hand Sept. 30, 1912 | | 1,578.06 | |
| | | | 835,411.63 |
| | | | 6,556,525.96 |
| Principal | | | 5,249,061.85 |
| Interest | | | 1,307,464.11 |
| | | | 6,556,525.96 |

On pages 409 and 410 of said hearings, in a letter dated April 4, 1912, and addressed to Hon. Lemuel Padgett, chairman of the House Committee on Naval Affairs, Mr. Patrick stated the total cost of the road to that date to be about $6,400,000, and that it would cost the further amount of $4,650,000 to complete the road, which would be at the rate of $36,500 or $37,000 per mile for the construction of the remaining portion of the road as surveyed.

For the information of the committee I will insert in full that portion of Mr. Patrick's letter:

* * * * * * *

"The Alaska Northern Railway Co. is a corporation of the State of Washington, with its head office in Seattle. It owns, free from all encumbrance, a standard-gauge railway, which runs from Resurrection Bay to Kern Creek, a point 71.6 miles inland on the north shore of Turnagain Arm, an arm of Cook Inlet, and 112 miles from the highest grade Matanuska coal, and is to be continued to the Matanuska coal fields and to a point opposite Chena, on the Tanana River, connected by local railway with Fairbanks, the total length being about 495 miles, while further extensions are projected. The location of the railway is shown on the map annexed, marked 'A.'

"The route to Matanuska and Fairbanks was located and surveyed under the personal direction of W. P. Poland, now chief engineer and general manager of the Philippine railways, and of George A. Kyle, now chief engineer of the Chicago, St. Paul & Puget Sound Railway.

"The portion which is completed contains most of the heavy and more expensive work on the road and all which presented any engineering difficulties. In the 72 miles seven tunnels were necessary, besides a tight loop and spiral, while there was a good deal of heavy rock work and bridging. It was hoped that the costly tunnels and spiral could be avoided and the line shortened by building through Johnson Pass and crossing Turnagain Arm at Sunrise from Snipers Point to Bird Point; but by tidal observations, the use of wind gauges, and by other experiments it was absolutely proved that such a route was physically impossible and that there was no way to reach the north side of this arm except by the present route, which can not be improved except in minor details.

"The cost to the company and its stockholders of construction, maintenance, rolling stock, etc., to date, including all surveys and work done beyond the present terminus of the road, is about $6,400,000. In this is included costs of a receivership, which lasted about 18 months, granted by a Federal judge on the petition of one man, without any notice to the officers of the company or to the bondholders; the work done during the receivership, including the completion of 20 miles of railway, and the maintenance, repair, and operation of the road during the last two years, in which further construction has been out of the question, owing to the abrogation of the coal-land laws of the United States by Executive action.

"The route from mile 71.6 to the interior is one of low grades and little expensive construction; the first 30 miles, in which a good deal of grading has been done, contains some fairly heavy rock work, but no special difficulties exist, while from mile 102 the road can be built easily, quickly, and comparatively cheaply.

"The maximum grade against the coal tonnage is only 2.2, occurring at two points, while the maximum curvature, which occurs only on the loop, is 14 degrees compensated. These maximum grades and curvatures are less than those on the mountain sections of the transcontinental routes, and the only effect they have is that a pusher engine will be required at a couple of points. Bridges and trestles have been built with a view to using Baldwin's 70-ton engine, and last spring all bridges and trestles were found in proper condition to carry a 72-ton rotary snow plow with two 50-ton engines attached. Climatic conditions entail no serious difficulties in operation; snowfall is not heavy; there is an absence of blizzards and windstorms; and when the next 112 miles shall have been completed the railway will, in every way, be well adapted for the rapid delivery of high-grade coal at Resurrection Bay.

"Complete final surveys, profiles, quantity estimates, etc., have been made of the route for this 112 miles, and the cost has been very carefully estimated. Special reference may be made to the reports of Sir Douglas Fox and partners, consulting engineers, of 56 Moorgate Street, London, E. C., who made a careful examination of the route in 1908, and of Col. A. W. Swanitz, who has had long experience in pioneer railway building in this country, Alaska, and elsewhere, who built the first 20 miles of the present line, was in charge during 1910 and 1911, and is thoroughly conversant with the conditions of railroad construction in Alaska. Both reports are based on actual quantities as worked out from the detailed surveys and field notes, and the two reports are in very substantial accord, the cost of completion from Kern Creek to Matanuska. with all equipment, terminals, sidings, snow sheds, spur lines, etc., being placed at from $36,500 to $37,000 per mile, or taking Col. Swanitz's actual figures, about $4,650,000 in total cost. All necessary data for the letting of contracts are prepared, and if preparations are made early enough in the year to enable men and materials to be assembled in Alaska as early in the season as weather conditions will permit, construction to Matanuska can be completed in one season, and the railway will then be ready to carry coal to Resurrection Bay for the use of the Navy. The advantage of this route, and the benefit to the country, of having Resurrection Bay connected by this railway with the high-grade coal deposits in Matanuska have been set out by the Secretary of the Interior in an address of which a copy is annexed, marked 'B.' Copies are also attached, marked, respectively, 'C' and 'D,' of the Geodetic Survey chart of Resurrection Bay, and a map showing its strategic position."

### COST OF CONSTRUCTION OF COPPER RIVER & NORTHWESTERN RAILWAY CO.

[Senate hearings, pp. 141, 604, and 605.]

The road is constructed from Cordova to Kennecott, a distance of 196 miles. The cost of construction as stated by ex-Secretary of the Interior Fisher was $20,000,000; cost according to Mr. Wickersham was $18,000,000.

(Page 141.)

Senator WALSH. Mr. Secretary, does not that condition, with the immense wealth of agriculture and mineral deposits, in that neighborhood offer the most inviting kind of a field for the construction of a railroad by private enterprise?

Mr. FISHER. No; it does not, for this reason, Senator: The difficulty is that the people that are asked to build this railroad will say:

"Alaska is a long way off, and we are not satisfied with the return on our investment in Alaska that we would be satisfied with in Indiana, Iowa, or Montana. We want a great deal more if we are going to put our money in up there. We do not see where we are going to get it. It may be that in the course of time there will be traffic developed which will justify it, but it is a long wait, and we do not know; we will proceed tentatively. We will develop up to the Matanuska field; then we will stop, and we will wait to see what happens."

The result is nothing happens except in the most casual fashion. As I said before, it is a vicious circle. You never get any place. You have got to get your transportation in advance of development, and the financial interests that have been concerned so far have no disposition to do it. I have talked with the representatives of the people interested in the Copper River Railroad. They talked very sensibly about it. They say: "We do not care to extend from Chitina over to Fairbanks, because it would not pay." Why have they built that railroad? They have built it because they were interested in the Bonanza copper field up at Kennecott, and they figured there was enough copper ore up there to justify putting in the road that far. They came up to Chitina and came up the Chitina River to Kennecott and built the road. It cost them, so they say, approximately $20,000,000. You say: "Build it from here" [indicating]. They say: "That is an awful way off, and we do not see the justification for it at all. We do not care to do it." I have asked them: "Do you care to give any assurance at all?" "No; we do not want to do that; we have had our dose in Alaska. Our present investment is not particularly encouraging, and we do not care for more."

What they would like to do would be to have the Government build a road from Chitina over to Fairbanks.

(Page 604.)

Senator **Chamberlain**. To which particular road do you now refer?

Mr. **Wickersham**. To the Copper River & Northwestern. I will read into the record, very briefly, from Poor's Manual of Railroads, 1912, a statement in respect to the organization of this railroad, but only read part of it:

"The Copper River & Northwestern Railway Co. Line projected, Cordova, Alaska, on tidewater (Prince William Sound) through the Copper River Valley to copper fields near the Chitina River, and also to the Bering River coal district."

That is the projection.

"Line in operation from Cordova to Kennecott, Alaska, in the Bonanza copper fields, near the Chitina River, a distance of 196 miles; line completed March 30, 1911. Road under construction, 200 miles. A branch line to Katalla and the coal fields, 55 miles, is proposed. Gauge, 4 feet 8½ inches. Rail, steel, 70 pounds."

Now, to give you the history. [Reading:]

"*History*.—Chartered May 16, 1895, under the laws of Nevada. The object of construction of this road is the development of the general resources of Alaska and the handling of bituminous and anthracite coal from the Bering River district to tidewater and the interior. Owns deep-water terminals at Cordova, Alaska."

I read those extracts for the purpose of showing you that on the face of their organization, of their articles of incorporation, of their announcement to the world and to the law of what they intend to do, they only announce that they intend to build from Cordova out to the Chitina mines, and from about mile 38 on their road over to the Bering coal field, and they have always maintained that. The Copper River & Northwestern Railway has never at any time agreed in any authoritative way, certainly not in these articles or powers, to go any farther than they declare in their articles of incorporation they intended to do, to wit, to Chitina and Bering coal. They have never declared officially in favor of building to the Tanana.

Now, I want to call your attention to another point in respect to them, because it will be important later on. Again I read from Poor's Manual, same page:

"The capital stock of the Copper River & Northwestern authorized, $5,000,000; shares, $100. Annual meeting, first Tuesday in March.

"Funded debt, authorized, consists of $50,000,000 first mortgage 5 per cent 50-year gold bonds, due February 1, 1959; interest payable February 1 and August 1, at office of J. P. Morgan & Co., at New York, N. Y. Coupon bonds, $1,000 each, registrable as to principal; secured by first mortgage on entire property owned. Trustee, Standard Trust Co., New York, N. Y."

I call your attention to this official statement of this railroad which under its articles of incorporation declares shall be projected from Cordova up the Copper River to the Chitina coal fields, and from mile 38 over to Bering River coal fields. It has an authorized capitalization under the law of $5,000,000. It has been repeated time after time by their people, who ought to know the cost of that road, that it cost from $18,000,000 to $20,000,000, yet they have a mortgage on it recorded in the office of the recorder in the Cordova precinct, I am informed, for $50,000,000. In other words, upon the face of the situation as it presents itself, with a railroad completed by them as far as they projected it, except this branch over to the Bering River coal fields, they have a mortgage indebtedness of more than $30,000,000 water.

Senator JONES. Does that mortgage purport to cover anything in the future in addition to the actual construction?

Mr. WICKERSHAM. I do not know. I am informed that the mortgage is on file, and I get the rest of my information from their statements. It may be there is some arrangement in that mortgage by which not more than $20,000,000 of bonds have been issued. I do not know. I am calling your attention merely to the situation, because we all know that eventually it will result in this: When litigation shall arise over fixing rates, we will be confronted with that mortgage on the railroad, and while the railroad there has not actually cost more than $18,000,000, and can be completed, as I understand, for the $20,000,000, there will be a claim for $50,000,000 by the bondholders—innocent, honest bondholders, who will buy, however, with full knowledge of the fraud.

I also call your attention to these further items from Poor's Manual:

"The directors are S. W. Eccles, W. P. Hamilton, E. S. Pegran, W. B. Horn, H. G. Currier, A. H. Gillard, J. K. McGowan, T. M. Schumacher, Stephen Birch, John N. Steele, W. E. Bennett, New York, N. Y.; C. J. Jones, W. H. Bogle, and J. H. Young, Seattle, Wash., officers. General offices at 165 Broadway, Manhattan, New York, N. Y."

That is substantially the historical outline of this railroad, and I have called these statements to your attention because they may have an important bearing upon the general result.

### REPORT OF ALASKA RAILROAD COMMISSION.

[Pp. 107 to 113, inclusive.]

The commission has made a careful study of conditions in Alaska as regards wages, cost of materials and freight rates. It had at its disposal the results of preliminary surveys of only a portion of the roads considered. Such surveys were lacking on many of the routes, though considerable data bearing on costs of construction were available.

The commission has prepared estimates of cost of construction of all roads under consideration. These estimates are submitted herewith in the order in which the various roads have been described. It will be observed that the cost of the line from Chitina to Fairbanks has been estimated in considerable detail. It is regretted that the other lines could not be treated in the same manner, but this was impossible on account of lack of data, and in these cases the commission was compelled to assume a cost of construction per mile comparable to that experienced in country of similar character traversed by existing lines or estimated for in the Chitina-Fairbanks line, over which the commission actually traveled.

The commission had opportunity to obtain construction results from a number of existing railroads and also to discuss costs with engineers who have had Alaskan or Canadian experience; and it was on information such as this that it based its unit prices for the various classes of excavation, clearing, grubbing, trestles and bridges, masonry work, etc. For equipment the commission assumed the number of locomotives and cars which it believed sufficient to care for the traffic immediately in sight. In all of the following estimates no allowance has been made for organization and promotion expenses.

*Estimate No. 1—Haines-Fairbanks route.*—This line involves the construction of 638 miles of line, starting at the town of Haines, running in a northwesterly direction through 287 miles of Canadian territory and terminating at Fairbanks.

| | |
|---|---|
| Cost of construction of this line is estimated at | $21, 284, 700 |
| Engineering and superintendence, 5 per cent | 1, 064, 235 |
| Terminal ground and land damages | 20, 000 |
| Telephone | 159, 500 |
| Contingencies, 10 per cent | 2, 252, 844 |
| Interest, 6 per cent on cost during one-half period of construction | 2, 230, 315 |
| Rolling stock plus overhead charges | 1, 173, 920 |
| Total | 28, 185, 514 |
| In round numbers | 28, 186, 000 |
| Average cost per mile of track | 44, 300 |

There was no profile of this line available, and the above estimate is based almost entirely upon information furnished by the engineer who conducted the exploratory reconnoissance. One member of the commission, having traveled over approximately the same route, was sufficiently familiar with the character of the country traversed to form a general idea of the cost of railroad construction.

*Estimate No. 2.—Chitina-Fairbanks route.*

| | | Quantity. | Unit price. | Total cost. |
|---|---|---|---|---|
| 1. Right of way | | | | |
| 2. Clearing | acres | 3,756 | $100.00 | $376,000.00 |
| 3. Earth | cubic yards | 2,190,535 | .40 | 876,214.00 |
| 4. Frozen earth and gravel | do | 1,937,605 | .75 | 1,453,205.00 |
| 5. Loose rock | do | 89,100 | 1.00 | 89,100.00 |
| 6. Solid rock | do | 398,925 | 1.60 | 638,280.00 |
| 7. Culverts | miles | 313 | 500.00 | 156,500.00 |
| 8. Pile and framed trestles | | | | 977,260.00 |
| 9. Bridges (steel and masonry) | | | | 464,000.00 |
| 10. Tunnels | feet | 945 | 75.00 | 70,880.00 |
| 11. Ties | | 901,440 | .50 | 450,720.00 |
| 12. Rails (75-pound) | tons | 36,930 | 65.00 | 2,400,450.00 |
| 13. Rail sidings, laid | feet | 110,180 | 2.84 | 312,900.00 |
| 14. Switch timbers and ties | | | | 20,000.00 |
| 15. Spikes | pounds | 2,253,600 | .05 | 112,680.00 |
| 16. Splice bars | do | 4,031,440 | .05 | 201,570.00 |
| 17. Track bolts | do | 532,100 | .07 | 37,240.00 |
| 18. Track laying | miles | 313 | 600.00 | 187,800.00 |
| 19. Ballasting | do | 300 | 1,000.00 | 303,450.00 |
| 20. Turnout and switch furnishings | | | | 30,000.00 |
| 21. Water stations | | 16 | 4,400.00 | 70,400.00 |
| 22. Depots | | 46 | 2,500.00 | 115,000.00 |
| 23. Snow fences | feet | 93,200 | .34 | 31,690.00 |
| 24. Snow sheds | do | 15,845 | 50.00 | 792,000.00 |
| 25. Intermediate yards | | 3 | 40,000.00 | 120,000.00 |
| 26. Fairbanks yard, track, buildings, etc | | | | 260,000.00 |
| Cost of construction | | | | 10,547,339.00 |
| 27. Engineering and superintendence, 5 per cent | | | | 527,367.00 |
| 28. Terminal ground and land damages | | | | 20,000.00 |
| 29. Telephone | | | | 78,250.00 |
| 30. Contingencies, 10 per cent | | | | 1,117,296.00 |
| 31. Interest, 6 per cent on cost during half period of construction | | | | 1,106,122.00 |
| 32. Rolling stock plus overhead charges | | | | 575,000.00 |
| Grand total | | | | 13,971,374.00 |
| In round numbers | | | | 13,971,000.00 |
| Average cost per mile of track | | | | 44,600.00 |

*Estimate No. 3—Valdez-Fairbanks route.*—This line involves the construction of 101 miles of road from Valdez to the northward, where it joins the route already estimated for the Cordova-Fairbanks route, from which point to the terminus, 279 miles, the construction cost per mile is taken from estimate No. 2.

| | |
|---|---|
| Cost of construction of 101 miles | $4, 684, 046 |
| Engineering and superintendence, 5 per cent | 234, 202 |
| Telephone | 25, 250 |
| Contingencies, 10 per cent | 494, 350 |
| Interest on cost, one-half period of construction | 489, 406 |
| Rolling stock plus overhead charges | 174, 225 |
| Grand total, 101 miles | 6, 101, 479 |
| 279 miles, at $44,600 | 12, 443, 400 |
| Total, Valdez to Fairbanks | 18, 544, 879 |
| In round numbers | 18, 545, 000 |
| Average cost per mile of track | 48, 800 |

*Estimate No. 4—Seward-Fairbanks route* (from Kern Creek to Fairbanks).—This line involves the construction of 391 miles of line, extending from Kern Creek, the terminus of the Alaska Northern Railroad, in a northerly direction to Fairbanks. The use of the existing Alaskan Northern tracks, which run from Seward to Kern Creek, is contemplated.

| | |
|---|---|
| Cost of construction of 391 miles | $13, 382, 054 |
| Engineering and superintendence, 5 per cent | 669, 103 |
| Terminal land damages | 20, 000 |
| Telephone | 97, 750 |
| Contingencies, 10 per cent | 1, 416, 891 |
| Interest on cost, one-half period of construction | 1, 402, 722 |
| Rolling stock plus overhead charges | 719, 440 |
| Total | 17, 707, 960 |
| In round numbers | 17, 708, 000 |
| Average cost per mile of track | 45, 300 |

*Estimate No. 5—Seward-Iditarod line.*—This line involves 344 miles of new road. The first 115 miles from Kern Creek to Willow Creek is coincident with the Seward-Fairbanks route. From Willow Creek it runs in a northwesterly direction 229 miles to the village of McGrath on the Kuskokwin River.

| | |
|---|---|
| Cost of the first 115 miles (estimate No. 4 this includes all overhead charges) | $5,209,500 |
| Cost of construction of the remaining 229 miles | 9,746,000 |
| Engineering and superintendence, 5 per cent | 487,300 |
| Telephone | 57,250 |
| Contingencies, 10 per cent | 1,029,055 |
| Interest on cost, one-half period of construction | 1,018,764 |
| Rolling stock plus overhead charges | 421,360 |
| Total | 17,969,229 |
| In round numbers | 17,970,000 |
| Average cost per mile of track | 52,300 |

*Estimate No. 6—Iliamna-Kuskokwin route.*—This line involves about 400 miles of road, starting at Iliamna Bay, running in a northwesterly direction and terminating at or near Piamute on the Yukon River.

| | |
|---|---|
| Cost of construction of this road is estimated at | $17,440,000 |
| Engineering and superintendence, 5 per cent | 872,000 |
| Telephone | 100,000 |
| Contingencies, 10 per cent | 1,841,300 |
| Interest 6 per cent on cost during one-half period of construction | 1,209,198 |
| Rolling stock plus overhead charges | 736,000 |
| Total | 22,198,498 |
| In round numbers | 22,199,000 |
| Average cost per mile of track | 55,400 |

*Estimate No. 7—Valdez-Marshall Pass—Copper River line.*—This line involves 54 miles of new road. It starts at Valdez and from that town to Marshall Pass the line is coincident with the Valdez-Fairbanks route. At mile 27 this line runs through Marshall Pass, thence in an easterly direction, connecting with the Copper River & Northwestern Railroad at about mile 87 of that route.

| | |
|---|---|
| Cost of construction of the first 27 miles | $1,507,190 |
| Cost of construction of the remaining 27 miles | 1,205,000 |
| Total cost of construction | 2,532,190 |
| Engineering and superintendence, 5 per cent | 126,610 |
| Telephone | 13,500 |
| Contingencies, 10 per cent | 267,230 |
| Interest, 6 per cent on cost during one-half period of construction | 88,186 |
| Rolling stock, plus overhead charges | 93,150 |
| Total | 3,120,866 |
| In round numbers | 3,121,000 |
| Average cost per mile of track | 57,800 |

*Estimate No. 8—Branch from Bering River coal field to Cordova via Katalla.*—This line is 93 miles long, 55 miles of which is a proposed extension. This new line connects with the Copper River & Northwestern Railroad at mile 38, and runs in a southerly direction to the town of Katalla, thence in a northeasterly direction to the Bering River coal fields.

| | |
|---|---|
| Cost of construction of this new line is estimated at | $2,099,500 |
| Engineering and superintendence, 5 per cent | 104,975 |
| Telephone | 13,750 |
| Contingencies, 10 per cent | 221,823 |
| Interest on cost, one-half period of construction | 73,201 |
| Rolling stock, plus overhead charges | 187,000 |
| Total | 2,700,249 |
| In round numbers | 2,700,000 |
| Average cost per mile of track | 49,000 |

*Estimate No. 9—Branch from Bering River coal field to Cordova via Lake Charlotte.*—The total length of this line is 76 miles; 38 miles of which will be new road. This new line connects with the Copper River & Northwestern Railroad at mile 38, and runs in an easterly direction via Lake Charlotte to the Bering River coal fields.

| | |
|---|---|
| Total cost of construction of this new line | $1,583,334 |
| Engineering and superintendence, 5 per cent | 79,167 |
| Telephone | 9,500 |
| Contingencies, 10 per cent | 167,200 |
| Interest, 6 per cent on cost during one-half period of construction | 55,176 |
| Rolling stock, plus overhead charges | 159,600 |
| Total | 2,053,977 |
| In round numbers | 2,054,000 |
| Average cost per mile of track | 54,000 |

*Estimate No. 10—Katalla-Bering River coal field line.*—This line involves 31 miles of road, starting at the town of Katalla and terminating in the Bering River coal fields.

| | |
|---|---|
| Cost of construction of this line | $1,180,699 |
| Engineering and superintendence, 5 per cent | 59,035 |
| Telephone | 7,750 |
| Contingencies, 10 per cent | 124,748 |
| Interest, 6 per cent on cost during one-half period of construction | 41,168 |
| Rolling stock, plus overhead charges | 288,190 |
| Total | 1,701,590 |
| In round numbers | 1,702,000 |
| Cost of terminal facilities | 2,500,000 |
| Grand total | 4,202,000 |
| Average cost per mile of track, exclusive of terminal | 55,000 |

*Estimate No. 11—Controller Bay-Bering River coal field line.*—This line involves 25 miles of road, starting at Controller Bay and running in a northeasterly direction to the Bering River coal field.

| | |
|---|---|
| Cost of construction of this line | $952,313 |
| Engineering and superintendence, 5 per cent | 47,616 |
| Telephone | 6,250 |
| Contingencies, 10 per cent | 100,618 |
| Interest, 6 per cent, on cost during one-half period of construction | 33,204 |
| Rolling stock plus overhead charges | 287,500 |
| Total | 1,427,501 |
| In round numbers | 1,430,000 |
| Cost of terminal facilities | 2,500,000 |
| Grand total | 3,930,000 |
| Average cost per mile of track, exclusive of terminal | 57,000 |

*Estimate No. 12—Chitina-Matanuska coal field line.*—This line leaves the Copper River & Northwestern Railroad at mile 132 at the town of Chitina; for 55 miles the proposed new line is coincident with the Chitina-Fairbanks route. Leaving that route the line runs in a northwesterly direction for 108 miles to the Matanuska coal fields.

| | |
|---|---|
| Total cost of first 55 miles | $1,853,335 |
| Cost of construction of remaining 108 miles | 4,860,000 |
| Engineering and superintendence, 5 per cent | 335,667 |
| Telephone | 40,750 |
| Contingencies, 10 per cent | 708,975 |
| Interest, 6 per cent, on cost during one-half period of construction | 233,962 |
| Rolling stock plus overhead charges | 400,980 |
| Total | 8,433,669 |
| In round numbers | 8,434,000 |
| Average cost per mile of track | 51,700 |

*Estimate No. 13—Kern Creek-Matanuska coal field line.*—This line involves 187 miles of new road, starting at Kern Creek, the terminus of the existing tracks of the Alaska Northern Railroad, and terminating in the Matanuska coal fields. From Kern Creek to Matanuska Junction, 77 miles, the new line is coincident with the proposed Seward-Fairbanks route. The remaining distance of 38 miles runs in an easterly direction to the Matanuska coal fields.

| | |
|---|---:|
| Cost of construction of new work, extending from Kern Creek to the Matanuska Junction, of 77 miles, is | $2,640,353 |
| Cost of construction of remaining portion of line, extending from Matanuska Junction to the coal fields, is | 1,223,116 |
| Engineering and superintendence, 5 per cent | 193,174 |
| Telephone | 28,750 |
| Contingencies, 10 per cent | 408,539 |
| Interest, 6 per cent, on cost during one-half period of construction | 134,818 |
| Rolling stock plus overhead charges | 316,250 |
| Total | 4,945,000 |
| Average cost per mile of track | 43,000 |

*Estimate No. 14—Skolai Pass-White River Branch line.*—This route involves the construction of 129 miles of new line, starting from McCartys, near Kennicott, on the Copper River & Northwestern Railroad and running in an easterly direction through Skolai Pass, connecting with the Haines-Fairbanks route near the junction of the White and Donjek Rivers.

| | |
|---|---:|
| Cost of construction is estimated at | $6,750,000 |
| Engineering and superintendence, 5 per cent | 337,500 |
| Telephone | 32,250 |
| Contingencies, 10 per cent | 711,975 |
| Interest, 6 per cent, on cost during one-half period of construction | 234,952 |
| Rolling stock plus overhead charges | 222,525 |
| Total | 8,289,202 |
| In round numbers | 8,289,000 |
| Average cost per mile of track | 64,000 |

*Estimate No. 15—Fairbanks-Yukon extension.*—This route involves 115 miles of new line, starting at the town of Fairbanks, and runs in a northwesterly direction to the Yukon River.

| | |
|---|---:|
| Cost of construction | $3,775,000 |
| Engineering and superintendence, 5 per cent | 188,750 |
| Telephone | 28,750 |
| Contingencies, 10 per cent | 399,250 |
| Interest, 6 per cent, on cost during one-half period of construction | 131,753 |
| Rolling stock plus overhead charges | 198,375 |
| Total | 4,721,878 |
| In round numbers | 4,722,000 |
| Average cost per mile of track | 41,000 |

*Estimate No. 16—Valdez-Matanuska coal field line.*—From Valdez to mile 55 on the Chitina-Fairbanks route, this estimate is the same as the like portion of the Valdez-Fairbanks route. The remaining 108 miles to the Matanuska coal fields is the same as the like portions of the Matanuska-Chitina line.

| | |
|---|---:|
| Cost of construction | $10,255,204 |
| Engineering and superintendence, 5 per cent | 512,760 |
| Telephone | 57,500 |
| Contingencies, 10 per cent | 1,082,546 |
| Interest, 6 per cent, on cost during one-half period of construction | 357,240 |
| Rolling stock, plus overhead charges | 396,750 |
| Total | 12,662,000 |
| Average cost per mile of track | 55,000 |

No construction work should be begun until adequate preliminary surveys have been run. Topographic surveys should be made over a wide belt of the country traversed, in order that no opportunity may be lost to secure the best possible location. They could be completed in one year, and the commission is of the opinion that the railroads can be built and ready for the operation of trains within three years after the completion of the surveys and after decision as to definite location.

There have been presented to Congress measures for Government construction of railways in Alaska which contemplate the use of railroad and construction equipment of the Panama Canal Commission. It is possible that economy would attend the use of this material, but this would depend upon the amount which it would bring if offered for sale in the open market at Panama. The commission does not feel that it would be justified in considering the use of this equipment in its estimates of cost, but invites attention to a memorandum furnished by the Secretary of the Interior containing a list of such equipment as is now or will later become available. This memorandum is made a part of the appendix of the report. (See p. 142.)

In the above estimates, while the time of construction for the trunk roads was assumed at three years, it was considered that the shorter branches and the coal roads could be constructed in one year; interest items were computed accordingly.

Attention is invited to the fact that in each of the foregoing estimates it is assumed that money used in construction bears interest at the rate of 6 per cent: should it prove feasible to obtain these funds at a lower rate of interest an appreciable reduction in first cost would result.

(Page 141.)

The commission therefore recommend the construction of railway lines as follows:

| | |
|---|---|
| 1. Chitina to Fairbanks, 313 miles | $13,971,000.00 |
| 2. Bering River coal bank, via Lake Charlotte, 38 miles | 2,054,000.00 |
| 3. Kern Creek to Susitna Valley, 115 miles | 5,209,500.00 |
| 4. Matanuska coal branch, 38 miles | 1,616,000.00 |
| 5. Susitna Valley to Kuskokwim, 229 miles | 12,760,500.00 |
| Total, 733 miles | 35,611,000.00 |
| Average cost per mile of track | 48,582.53 |

In conclusion, it should be stated that the commission is unanimously of opinion that this development should be undertaken at once and prosecuted with vigor; that it can not be accomplished without providing the railroads herein recommended under some system which will insure low transportation charges and the consequent rapid settlement of this new land and the utilization of its great resources.

(Pages 142 and 143.)

## APPENDIX A.

### MEMORANDUM OF MATERIAL AVAILABLE FOR TRANSFER FROM THE ISTHMIAN CANAL COMMISSION, FURNISHED THE ALASKA RAILROAD COMMISSION BY THE SECRETARY OF THE INTERIOR, SEPT. 1, 1912.

1. *List of equipment in service of Isthmian Canal Commission, suitable for railway construction work, that will be available Jan. 1, 1913.*

36-INCH GAUGE.

| Number. | Class. | Price. | Description and date of release. |
|---|---|---|---|
| 82 | Cars, steel, flat (narrow-gauge). | $390 | Bought in 1909 from Youngstown Car Mfg. Co. 36-inch gauge. 8-wheel, all steel flat cars, 30,000 pounds capacity; platform, 7 feet wide; train length, 18 feet; height of car rail to platform, 2 feet 4 inches; M. C. B. trucks, couplers, and brake beams. Operate on 70-pound rail. Retire at end of year 1912. |
| 35 | Cars, steel dump (narrow gauge). | 227 | Bought in 1907 from Western Wheeled Scraper Co. 36-inch gauge. 4-yard capacity, double dump; capacity, 12 tons. Operate on 70-pound rail. Retire at end of year 1912. |
| 8 | .....do..................... | 348 | Bought in 1909 from Wonham-Magor Co. 36-inch gauge. 5 yards double dump; capacity, 12 tons. Operate on 70-pound rail. Retire at end of year 1912. |
| 4 | Locomotives (narrow gauge). | 3,163 | 10 by 16 inches, simple, built by Davenport Locomotive Co. in 1908; 36-inch gauge; bituminous coal; 4-wheel saddle type; steel cabs; air brakes. |
| 14 | .....do..................... | 2,980 | 8 by 14 inches, simple; built by H. K. Porter Co. in 1910. 36-inch gauge; 24-inch driving wheels; bituminous coal; 6 drivers; 350 gallons water; driving-wheel base, 5 feet 6 inches; total wheel base, 14 feet 6 inches; tractive power, 4,000 pounds; air brakes; steel cab. |

1. *List of equipment in service of Isthmian Canal Commission, suitable for railway construction work, that will be available Jan. 1, 1913*—Continued.

| Number. | Class. | Price. | Description and date of release. |
|---|---|---|---|
| 4 | Locomotives (narrow gauge). | $2,950 | 10 by 16 inches, simple; 4-wheel saddle tank; 36-inch gauge; bituminous coal; steel cabs; built by Vulcan Iron Works in 1910. |
| 8 | Concrete mixers | 1,000–1,500 | All ¾ cubic yard capacity; built by Contractors Supply Co.; Ransome Concrete Machine Co.; of the following types: Chicago, Smith, Ransome, etc. |
| 50 | Miles rail | [1]31 | This rail has been in service from 3 to 4 years in construction service and is 70 pounds to the yard, A. S. C. E. section. Has necessary angle bars, bolts. and tie plates. Retire by Dec. 31, 1912. It is estimated that it would last from 4 to 5 years in ordinary freight service. |
| 145 | Switches (complete) | 70–125 | Each switch consisting of points, low-ground throw stands, and frogs, with necessary rods and fastenings; high-price manganese steel switch point tips and frogs with manganese steel counters; low-price open hearth steel points and frogs.<br>Total narrow gauge=$273,682. |

[1] Per ton.

### FIVE-FOOT GAUGE EQUIPMENT.

(Available in 1913.)

A large number of steel flat and dump cars, 5-foot gauge, and wooden flat cars of same gauge will be ready to retire June 30, 1913, or later in that year. These cars must all be changed to 4 foot 8½ inch gauge at an average cost of $30 each. They may be used in filling in trestles, etc., and on heavy work on 4 foot 8½ inch gauge.

This list may be materially increased January 1, 1915, but it will suffice for needs of such items until then. If not used for a Government road in Alaska, there is no apparent use for this plant.

The following are recommended to be taken:

400 wooden flat cars, purchased in 1907 and 1908, American Car & Foundry Co., for use with Lidgerwood cable plow unloaders, 5-foot gauge. Original cost, $1,110 each. Estimated cost conversion, $28.50 each.
100 steel dump cars, purchased in 1910, William J. Oliver Manufacturing Co.
100 steel dump cars, purchased in 1908, William J. Oliver Manufacturing Co.
200 steel dump cars, purchased in 1908, Western Wheel Scraper Co., 12 cubic yards capacity. Average cost conversion, $28.50 each.
24 American Locomotive Co. locomotives. Nos. 101–124, retired June 30, 1913. Estimated cost conversion, $775 each. Original cost, $11,000. (These are all the locomotives that may be converted. If the standard gauge is limited to road from Seward to coal field, 15 locomotives will suffice.)

### EXCAVATING MACHINERY.

15 dredge buckets, clamshell and orange peel. Selected from those retired in 1913 for use with locomotive cranes or derricks.
10 locomotive cranes to be selected from those retired in 1913:
    4, 15-ton capacity.
    4, 20-ton capacity.
    2, 25-ton capacity.
6 well drills, Star Drilling Co., 4 inches, mounted on wheels, with engines and boilers for same arranged to be operated by steam.
25 drills, Tripod, with steam heads, selected from those retired in 1913, —by 7½-inch stroke, 145 pounds and 400 pounds weight.
2 pile drivers, long-reach leads for driving trestles, to be mounted on Lidgerwood cars.
2 pile drivers, self-propelling swing drivers, with boilers and patent hammers.
3 earth spreaders, to be selected from those retired in 1912.
8 steam shovels, Marion and Bucyrus, 2½-yard dippers, 70 tons or less.
1 steam shovel, 5 cubic yard dipper, 90 tons.
4 Lidgerwood unloaders, 60-inch, ton pull, 12 by 12 inch double engines.
8 Marion plow unloaders, 4 right and 4 left hand.

MISCELLANEOUS.

6 rock crushers, 40 to 300 cubic yards per day capacity, to be selected from those retired in 1912–13, with necessary boilers, engines, etc.
12 concrete mixers, ¾ yard capacity.

MATERIAL.

100 miles 70-pound rails, with fish bars, angle plates, bolts, and nuts.
100 switches, ground throw stands, points and frogs, rods and fastenings.

All excavating equipment, locomotives, and steam plant to be equipped with necessary hand tools for operation and field repairs.

Also tools serviceable for track work, namely: Spike mauls, track drills, track wrenches, jim-crows, track levels, track gauges, spike pullers, lining bars, tamping picks, shovels, sufficient for 1,000 men six months.

The report of the Alaska Railroad Commission for 1912 estimated the cost of construction of railroads in Alaska from $41,000 per mile to $64,000 per mile.

If the bill authorizing a further appropriation of $17,000,000 be enacted, the cost of the project will be $52,000,000 and the estimated cost of construction of the railroad on completion will be about $73,200 per mile.

Since 1913 cost of labor in Alaska has increased over 59 per cent, and material and supplies have increased in cost from 25 per cent to 161 per cent. Transportation charges have increased from 115 to 147 per cent.

It has been suggested that we should have Mr. Edes and Col. Mears appear before the committee this morning to give us brief statements in regard to the construction of the road so far, and if there is no objection, I will ask Mr. Edes, the chairman of the commission, to make his statement first.

## STATEMENT OF MR. WILLIAM C. EDES, CHAIRMAN ALASKAN ENGINEERING COMMISSION.

Mr. Edes. Mr. Chairman, I want to say I prepared a statement covering some of the history of the road and covering a few things which I thought perhaps had not been fully set forth heretofore. I have not seen a complete transcript of the record which has been made so far, and so it is likely that some of these things have already been presented to you.

Mr. Chairman, in order that one may intelligently judge the work of others, it is necessary that he understand and appreciate the conditions under which that work has been performed. It has been a source of regret to the builders of the Alaska Railroad that it has not been found possible for a congressional committee to visit the scene of the work and see for themselves what has been accomplished.

We have on several occasions been visited by railroad men of large experience, who have been practically unanimous in their commendation of the conduct of the enterprise. In looking back over five years of service, I can see some instances where we might have improved on our methods if we had been able to see ahead. We do not claim to be exceptions to the rule of foresight versus hindsight. But we have no apologies to offer. I do not hesitate to say that the work on the Alaska Railroad has been honestly and efficiently done, the management has been economical, and the results accomplished will compare most favorably with any similar enterprise conducted in this country under the conditions that have prevailed during the last five years.

I shall, in this statement, take up certain activities of the commission that have been brought to your attention, but are, perhaps, not quite clear to you. Having been the administrative head of the Alaskan Engineering Commission since its creation in 1914, I think I may be able to throw some light on certain matters, and hope to convince you that we have proceeded on a well-defined plan and have good reasons for all we have done.

It may be apropos to sketch briefly the history of the enterprise in so far as the present management is concerned.

Mr. DOWELL. This commission was appointed in 1914?

Mr. EDES. Yes, sir.

Mr. DOWELL. How long did the other members of the commission serve?

The CHAIRMAN. When did you resign, Col. Mears?

Col. MEARS. I was appointed soon after the commission was organized, and I sent in my letter of resignation in December, 1917, which was accepted by wire, and I left Seward on the 8th of January, 1918.

Mr. DOWELL. You were in Alaska during all the time of your appointment?

Col. MEARS. I was in Alaska the first year on surveys from June until November. We could not do that work in the wintertime. When the construction started I went with the first party and stayed there continuously until the latter part of 1918, except for one month spent in Washington in the winter of 1917–18.

Mr. DOWELL. Did any of the other commissioners stay in Alaska during that time?

Col. MEARS. Yes, sir.

Mr. DOWELL. Which one?

Col. MEARS. Mr. Riggs stayed in. He was at Nenana during one winter, I think the winter I was in Washington—that is, the winter of 1917–18.

Mr. DOWELL. How long did he stay there during the time you were with the commission?

Col. MEARS. Mr. Riggs went up the first winter and when the construction work started and he was in there at Nenana, I think, until some time in November.

Mr. DOWELL. That is of 1914?

Col. MEARS. 1915; the construction started in 1915.

Mr. DOWELL. Then what did he do after that?

Col. MEARS. He was in Washington in the winter 1915–16, and went back to his job in the early spring. My recollection is that it was in March when he went in through Cordova to Fairbanks.

Mr. DOWELL. Do you know how long he stayed on the work?

Col. MEARS. He stayed continuously in the summer and the next winter; I think it was the winter when I was down here for a month.

Mr. DOWELL. What about the chairman of the commission—was he there at any time?

Col. MEARS. The chairman of the commission was on the work each summer. He was here in Washington attending to these appropriations during the wintertime and went up there in May or June each year and came out about November.

Mr. EDES. I have here, Mr. Dowell, the dates when I left Seattle each year and when I got back there. I will give you those dates in a moment.

I just want to give you now a quotation from the original act of Congress of March 12, 1914, to show under what authority we started our towns and did some things which were not absolutely specified in the act of Congress. I call your attention to this because some people might say "What right had you to put in a water supply," or "What right had you to put in an electric plant." There has been some question about that. It was left to the judgment of the Secretary of the Interior and the commission as to what things were necessary for the physical necessities of the employees and to hold them on the job.

In the act of Congress approved March 12, 1914, authorizing the President to construct railroads in Alaska (Public No. 69, 63d Cong., S. 48) the President is authorized, amongst other things, "to employ such officers, agents, or agencies, in his discretion as may be necessary to enable him to carry out the purposes of this act;" and, again, "That it is the intent and purpose of Congress through this act to authorize and empower the President of the United States, and he is hereby fully authorized and empowered, through such officers, agents, or agencies as he may appoint or employ to do all necessary acts and things in addition to those specially authorized in this act to enable him to accomplish the purposes and objects of this act."

The President, upon the recommendation of the Secretary of the Interior, appointed the following members of the Alaskan Engineering Commission: W. C. Edes (I quote Secretary Lane's statement), "because of over 35 years' experience in locating and constructing railroads in the far West for the Santa Fe, Southern Pacific, and other railroad companies;" Lieut. Frederick Mears, "because of his experience as an engineer on the Great Northern under Mr. J. F. Stevens, and later in the construction of the Panama Railroad under Col. Goethals;" Thomas Riggs, jr., "because he had spent many years in Alaska and surveyed the Alaskan-Canadian boundary from the sea to the Arctic Ocean and was familiar with the Alaskan people and conditions under which work can be done in Alaska."

On May 8, 1914, the following instructions were received from the Secretary of the Interior:

> Agreeable to the wishes of the President and by his direction, I take this occasion to formally authorize the Alaskan Engineering Commission to select and appoint its assistants for the work in hand, to purchase the necessary supplies and equipment, to order travel and subsistence for all employees of the commission, and to proceed to the field at the earliest practicable date. I desire that a record of appointments or employments made by the commission be furnished this office, in order that a complete service record may be maintained here.

The "work in hand" for 1914 was to make such surveys and compile such data as would enable the President to decide on the most available route over which to build the railroad. A report was made during the following winter and on April 10, 1915, the President issued an Executive order designating the route starting from Seward as the one to be followed.

On April 10, 1915, the President by Executive order directed that the work of construction proceed and designated the Alaskan Engineering Commission, acting under the supervision of the Secretary of the Interior, as the agency to be employed. Very extended authority was given the commission. The chairman was made chief engineer and given power of approval or disapproval of all administrative matters connected with the work in Alaska. This Executive order may be found on pages 180 and 181 of the Reports of the Alaskan Engineering Commission for the period from March 12, 1914, to December 31, 1915, being part 2 of House Document No. 610, Sixty-fourth Congress, first session. I cite the above to show the authority of the commission.

I quote the following from the very complete statement made by the Secretary of the Interior to Congress and contained in the Congressional Record of February 26, 1919:

> The work of locating and constructing the road has been left in their hands entirely. The only instructions which they received from me was that they should build the road as if they were working for a private concern, selecting the best men for the work, irrespective of politics or pressure of any kind. I have not asked them to appoint one man. As a result, we have a force that has been gathered from the construction camps of the western railroads, made up of men of experience and proved capacity. That they have done their work efficiently, honestly, and at reasonable cost is my belief.

In corroboration of this statement, I wish to insert the following letter:

> April 16, 1915.
>
> Dear Mr. Edes: I am directed by the President to give you written instructions that all appointments made on the Alaskan work under your direction shall be made solely upon the basis of merit.
>
> Very truly, yours,
>
> (Signed) Franklin K. Lane.
>
> Approved:
> Woodrow Wilson.

To this I would add that at no time since the inception of the work have either the President or the Secretary of the Interior directed or even suggested any appointments, and this notwithstanding the fact that we received during the first year of work at least 30,000 applications for positions. The commission faithfully carried out the directions given.

The Executive order of April 10 further says:

> The members of the commission shall proceed to the Territory of Alaska and remain there at least until October 1, except when on leave of absence, which will be granted to the members of the commission by the chairman, and to the chairman by the Secretary of the Interior.

I mention this as I understood there was some anxiety to learn whether I spent the proper amount of time in Alaska. So that there may be no doubts on this point I will insert the dates of my leaving Seattle and returning thereto for the past five years: 1914; left Seattle June 7, arrived October 23.

Mr. Dowell. That was in 1915?

Mr. Edes. No; 1914. That is the year when we made surveys, and when the surveys were completed we came out.

In 1915, left Seattle May 25, arrived November 24; 1916, left Seattle June 5, arrived November 9; 1917, left Seattle May 11, arrived November 8; 1918, left Seattle June 19, arrived November 20.

Mr. Brooks. May I ask you a question right there?

Mr. Edes. Yes.

Mr. Brooks. Were no surveys made before they decided to build this road?

Mr. Edes. The authorization to build the road was made in the winter of 1913–14. There had been some surveys made.

Mr. Brooks. Temporary?

Mr. EDES. Made over one of the routes, and then a reconnaissance, and so forth, over the other. At that time a new proposition came up of starting from what is known as Portage Bay and then by means of a long tunnel getting into the route which we are now following. So we started and made surveys from there over and connected with this route, and then made surveys through to Fairbanks.

Mr. BROOKS. That was in 1914?

Mr. EDES. That was in 1914; yes, sir.

Mr. BROOKS. Prior to that, when this project was being considered, there had been some temporary surveys?

Mr. EDES. Yes, and there had been reconnaissances, and, I think, over the route connected with the Cordova line.

Mr. DOWELL. Were you not presented with a survey when you were appointed?

Mr. EDES. No; we had some old data, not a complete survey.

Mr. DOWELL. You say no survey had been made of the road?

Mr. EDES. I say—I told Mr. Brooks there had been some preliminary surveys. Mr. McPherson can tell which ones those were. We had the notes of a partial survey, that went all the way through on the eastern route. That was not a very complete survey.

Col. MEARS. The first commission that went up there, to investigate, the Morrow Commission, collected a lot of data, which they found available in the engineering world, from general information. The Guggenheim people had gone to considerable expense and had surveyed a line from Chitina, which is at mile 130 on the Copper River Railroad, and about 330 miles through to Fairbanks, and they had some good engineering maps and profiles, which were all there, and we had access to that as well as the data of the commission. They had used that and gone over the line on the wagon road and they had these maps and profiles in their hands. The Alaskan Northern Railroad, which was built out from Seward about 70 miles they had also surveyed, and also the route right up through the Susitna Valley, and we are following the two surveys. They used what we call in engineering parlance a jump stadia survey. But they did survey the ground practically from mile to mile through the route and those data were available to the Morrow Commission in 1913 as well as they were to us.

Mr. EDES. What I meant was that they had not made as complete a survey as we made afterwards. We made a more complete survey because we had more time.

The CHAIRMAN. A railroad could not have been constructed on that survey; it could not have been constructed without a detailed survey.

Col. MEARS. No; Mr. Chairman. It was what we called a jump stadia survey. They will take a shot 500 feet if they can get a line on it.

Mr. EDES. I have given you the dates when I left Seattle and when I arrived. The dates on which I left Seattle in the spring have been determined by the necessity of staying here and assuring ourselves of the appropriation, on orders from the Secretary of the Interior.

I have been called to Washington every winter to appear before the Appropriations Committee and have left as early in the spring as the Secretary of the Interior would permit.

When the construction work was assigned to the commission, it was decided that the most feasible way to handle it was for each member of the commission to take charge of the work in certain localities. Lieut. Mears took charge at Anchorage, Mr. Riggs at Nenana, and Mr. Edes made his headquarters at Seward, looking after the rehabilitation of the Alaska Northern Railroad, and receiving reports from the other commissioners. At that time there was no telephonic communication between Seward and Anchorage. In 1917, after such communication had been established, the headquarters office was moved to Anchorage.

At that time there was no telephonic communication between Seward and Anchorage, and if we wanted to communicate we had to take the first steamer and that would take about 24 hours. In the winter of 1915 on the departure of the chairman to the States, Mr. R. J. Weir was placed as engineer in charge at Seward, reporting to the chairman. On January 31, 1918, Mr. Mears resigned, was promoted to a colonelcy, and proceeded to organize the Thirty-first Engineer Regiment, which later did duty in France, and on April 25, 1918, Mr. Riggs resigned from the commission to become governor of Alaska. No commissioners have been appointed to take their places, but instead, Mr. Frederick D. Browne has been made engineer in charge at Nenana, and Mr. William Gerig at Anchorage. Mr. Weir remained at Seward. The engineers in charge are all men of large experience in railroad work, and of marked ability. They report directly to the chairman.

I might explain here that the chairman when absent from Alaska is in constant communication by cable with the officials there. Even during my sickness there never was a time that I was not in close touch with Alaskan affairs and decided all administrative questions of importance.

Since construction started in 1915 it has been carried ahead as rapidly as available funds would permit and men and materials were available. Mr. McPherson has already told you what has been accomplished, and I will not repeat it. He has also in an exceedingly thorough manner analyzed the cost of the work and has made a very careful estimate of the cost of completion. These statements speak for themselves.

Mr. DOWELL. How long had you been in the engineering business?

Mr. EDES. I have been in the engineering business nearly 40 years.

Mr. DOWELL. Railroad engineering?

Mr. EDES. Yes.

Mr. DOWELL. How old are you now?

Mr. EDES. I am 63 years old. I wish to call your attention to but one thing. A statement was made on the floor of Congress and has also appeared in the public press, that the railroad up to date had cost $141,400 per mile and that the part already constructed is the easiest part of the work, the implication being that the remaining work would be still more expensive. This statement is hardly borne out by the facts as they appear in Mr. McPherson's careful diagnosis. Apparently the figure of $141,400 was arrived at in this way: To the cost of the roadway add cost of all construction outfits, terminal improvements, equipment, etc. Divide this by the number of miles of track laid, and there you have it. It is easily conceivable that this method of calculation would lead to a most variable result.

If in the year 1915 the commission had devoted the appropriation largely to establishing terminal facilities, as they might justly have done, and had laid only four or five miles of track, the cost per mile might have figured out several hundred thousand dollars. But you have the figures before you and I shall not add to them. The only way to arrive at the cost is to distribute the various things over the whole job and not distribute them over a small portion of road simply because that portion happens to be finished.

Mr. Dowell. You constructed this road, and Mr. McPherson did not; is that not true?

Mr. Edes. The commission constructed the road.

Mr. Dowell. Why was Mr. McPherson employed to present this matter to the committee instead of your commission?

Mr. Edes. The reason Mr. McPherson was employed to do this work was because I was very sick last winter. That was in the latter part of February and I had to go away. In fact, I do not suppose my doctor would smile on my being here to-day, but I came.

Mr. Dowell. Do you not make a complete report of everything that is done in the construction of this road?

Mr. Edes. I made an annual report on the first of last year. We make our reports about the 1st of January.

Mr. Dowell. You submit an annual report?

Mr. Edes. I do.

Mr. Dowell. Mr. McPherson's report to this committee was taken from that annual report; is that true?

Mr. Edes. Mr. McPherson made up his estimates from the estimates of these engineers in the field.

Mr. Dowell. That is the estimate of engineers employed in Alaska now?

Mr. Edes. Yes, sir.

Mr. Dowell. You felt it was necessary to have the commissioners in Alaska during this construction, did you not?

Mr. Edes. They stayed in Alaska as long as they were on the commission, except myself.

Mr. Dowell. It was necessary for them to be there, was it not?

Mr. Edes. It was not absolutely necessary to be there all the time; no.

Mr. Dowell. They were there during the time——

Mr. Edes (interposing). They were there, as Col. Mears has stated, most of the time. We were none of us there the first winter, but Col. Mears and Mr. Riggs spent most of their time——

Mr. Dowell (interposing). In connection with the construction work and overseeing?

Mr. Edes. Yes, sir; exactly.

Mr. Dowell. Do you not regard it as necessary for one of the commissioners at least to oversee that work and see that it is done properly and economically? Would you not consider that to be the duty of the commission?

Mr. Edes. I have been supervising the work through the active stage—in the spring, summer, and fall. In the winter it is not absolutely necessary to be there.

Mr. Dowell. You did not oversee the construction work; that was in the hands of the other two commissioners, as I understand it?

Mr. Edes. They were directing——

Mr. Dowell (interposing). They were directing the work.

Mr. Edes. I was directing it as chairman and chief engineer.

Mr. Dowell. But you did not direct the work in the field; you did not have the personal supervision of construction?

Mr. Edes. I did not direct it as—no.

Mr. Dowell. As far as the overseeing of the actual construction was concerned you had nobody from the commission to oversee that?

Mr. Edes. We had no commissioners.

Mr. Dowell. Then it was left entirely in the hands of the engineers and employees, with reference to construction?

Mr. Edes. The actual work in the field; but it was done under my direction as chief engineer.

Mr. Dowell. That is, under your general direction?

Mr. Edes. Well, particular direction in many cases. I have been on the ground, if that is what you mean.

Mr. Dowell. That is what I mean. You did regard it as essential, did you not, when the commissioners were there that the commissioners be present and oversee personally the construction of the work?

Mr. Edes. I did not mean to say but what the commissioners could have left sometimes——

Mr. Dowell (interposing). I do not mean that.

Mr. Edes. When the commission was filled, we considered that the best way to carry on the work was not to sit as a commission and tell somebody else to do it, but to divide the work up and let each man not only be a commissioner but be an engineer himself of a particular part of the work.

Mr. Dowell. And personally to supervise the work and see that it was being done in accordance with the best and most economic plan.

Mr. Edes. Yes.

Mr. Dowell. When these two commissioners resigned, that was not followed out, was it, in any respect?

Mr. Edes. Yes; it was followed out. The engineers in charge looked after the work.

Mr. Dowell. But the engineers in charge were under the commissioners all the time they were there.

Mr. Edes. They were not all of them there at that time.

Mr. Dowell. Well, they were needed there.

Mr. Edes. They did not have the same position, when the commissioners were there that they have now.

Mr. Dowell. What position have they now?

Mr. Edes. Each engineer in charge takes care of his proper portion of the work, but he consults with me on any matter of importance and carries on the work under my direction.

Mr. Dowell. Do you believe it is possible for a commission in Washington to direct this work and see that it is supervised and constructed in an economical way?

Mr. Edes. Well, the commission has not been sitting in Washington for anything of the kind. Of course, if you refer to the commission now, I am the only one that is left. Take, for instance, the season of 1918, from June 19 to November 20, taking out a few days traveling either way; that is the length of the season. The men we have in charge of the work up there are very able men of large experience. Mr. Gerig is a man of about 55 years of age, I should say, and Mr. Browne is about that same age. Mr. Weir is a younger man, probably about 35 years of age.

We are in constant communication by cable, or I am, with those gentlemen. Any matter that comes up outside of comparatively routine work can easily be referred to me and I answer them. I am familiar with all the work they are doing, just as familiar with it almost as if I saw them every day.

When I go there in the summer I go out on the work and they consult me as to what work they shall carry on, and in reference to anything related to the administration of the work. The chief engineer of a railroad always does have assistants whom he has to depend on. They are very capable men. I have been in complete touch with the work and am now. If one of these gentlemen wishes to know whether he shall begin work on a certain locality or begin work on a certain bridge it is a very easy matter for him to cable here and I can answer and tell him what to do.

The CHAIRMAN. How long have you been sick, Mr. Edes?

Mr. EDES. It was the latter part of February when I was taken sick. I was down south for something like two months.

The CHAIRMAN. Of this year?

Mr. EDES. Yes, sir.

The CHAIRMAN. And you have been sick ever since? What is the working season in Alaska on the railroad?

Mr. EDES. It is usually from the 1st of June to the 1st of October. You do some work there in the winter. If it is rock work you can do that work in the winter. You can not work the ground in the winter because it is frozen. You can do some of the bridge work in the winter.

The CHAIRMAN. You can not make a railroad or lay ties or rails——

Mr. EDES (interposing). The ground is frozen.

The CHAIRMAN. You can not make a railroad, put in the ballast, lay the rails and ties in the winter?

Mr. EDES. You can not do it to much advantage. You can do it, but we do not make a practice of it. The principal work that has been carried on in the winter has been the very heavy work beyond Turnagain Arm. That was rock work. You can handle that nearly as well in the winter, except it is more subject to storms.

Mr. MONAHAN. I think what Mr. Dowell was trying to get at was this. There seems to be a little difference in the point of view, and I think what he was trying to get at was this. It appears from what we have learned here that the railroad has been sort of building itself, so far as the commission was concerned, outside of what you have been doing in Washington. There have been none of the commissioners there.

Mr. EDES. There have not been any of the commissioners up there this last winter.

Mr. MONAHAN. They are not there now.

Mr. EDES. They are not there now.

Mr. MONAHAN. The railroad has practically built itself, so far as the commission is concerned, outside of the instructions you have given the engineers; is that right?

Mr. Edes. And the judgment of the men in charge. If you were building a building you would not necessarily be there all the time yourself. You would have an efficient foreman, and those men up there are men of years and years of experience in building railroads.

Mr. Dowell. Your theory is that you do not need a commission at all?

Mr. Edes. No; I do not say that. That is a matter of judgment with the President.

Mr. Dowell. You say these are competent men up there who are building the railroad, and they are building it, so far as your statement goes, except as you give them any general instructions. But they are actually constructing the railroad, and it is being done under their direction.

Mr. Edes. My general direction.

Mr. Dowell. Your general direction from here. Is it your theory that when these men resigned from the commission it was not necessary to appoint others to fill their places, and that the work is going on as though there had been a full commission on the job all the time?

Mr. Edes. That would hardly be a question for me to answer.

Mr. Dowell. You are building the railroad; you ought to know.

Mr. Edes. You say there are no other commissioners who have been appointed. That is a matter in the hands of the President.

Mr. Dowell. I am asking you whether, after these men resigned, the vacancies have made any difference, whether their places have been missed at all in the construction of the work. Has it gone on just as well without them?

Mr. Edes. I do not think that is quite a fair question.

Mr. Strong. You are asking him to criticize the appointing power.

Mr. Dowell. I do not ask him to criticize anybody.

Mr. Edes. I do not like to criticize the President of the United States or Secretary Lane.

Mr. Dowell. I am not asking you to do that. I am merely asking you for a fact.

Mr. Strong. Which will criticize them.

Mr. Dowell. I do not know whether it will or not.

Mr. Strong. It might.

Mr. Dowell. Whether it does criticize anybody or not, I think I have a right to have the fact. I think you ought to answer frankly whether the failure to reappoint any of the commissioners has in any manner injured the construction, economically, of this road.

The Chairman. I think that is hardly a fair question to ask the chairman of the commission. That is a matter you and I have our opinion about, anyway, and it is something we know as much about as he does.

Of course, the commission was disrupted to a certain extent. One of the members was appointed Governor of Alaska, and one of them resigned, as he ought to have done, to enter the Army at the time of the outbreak of the war, and through the dispensation of Providence the other man was sick for a part of the time. The road has been going along and being constructed, but the work of these other men before they left the commission certainly had been allotted and the work had gone on as well as it could under the conditions, not as well as it would, probably, if the commissioners had been there, and certainly not as well as if there had not been any war.

Mr. WATSON. Is there any objection in the world to the witness answering that question, whether the work has been handicapped by the absence of the other commissioners.

The CHAIRMAN. I do not think so.

Mr. MONAHAN. He is an appointee of the President.

Mr. WATSON. He is not criticizing the President. He is asked as a professional man whether the absence of other professional men has retarded the work. He can answer that question without criticizing anybody.

The CHAIRMAN. He has his opinion, and we each have an opinion about it, but that would simply be an opinion, and anybody can have an opinion about it.

Mr. WATSON. We have not been there. We do not know whether this work has been done economically or not. He has been there, and his opinion is worth something. Your opinion and mine may not be worth anything about that.

Mr. RAMSAY. I think the question as to whether or not the work has been retarded by reason of the absence of the commissioners is a fair one.

The CHAIRMAN. What do you think about that, Mr. Edes.

Mr. EDES. The work since Col. Mears left and since Mr. Riggs left has not been—the appropriations have been much smaller, and we have not had as much to do as we had in the last year the Colonel was there when we were pushing things very rapidly, and he took a most active part in it. But since he went into the service appropriations have been very much smaller, not on his account, but that has been so and our whole force has been largely reduced, and while I do not think there has been any harm done to the work because we have not had three commissioners on the job, but we have not stirred things up as lively as the last year Col. Mears was there.

The CHAIRMAN. Has the Committee on Appropriations given you all the money you asked for?

Mr. EDES. Generally so; they have generally given us the amount we have asked, but the appropriations do not come in a way to carry on the work most economically. You never feel sure whether you are going to get them or not. I remember distinctly—and that accounts for one of the late dates I left Seattle—that the sundry civil bill did not pass until the last day of June, I think. Our working season begins up there, with a favorable season, in May, and we did not know. We were satisfied we would get the money, but we had no assurance, and the United States Treasury would not honor bills on our say-so unless the money had been appropriated. There has been a great detriment in that way.

Mr. HALLOWELL. I think I can express Secretary Lane's views on that, if the committee cares to have them.

The CHAIRMAN. The money has been appropriated, all the money authorized has been appropriated.

Mr. EDES. Yes.

The CHAIRMAN. I thought it had been appropriated as requested by the commission.

Mr. EDES. I say it has usually, except in two instances. There was one year when they cut us down $2,000,000. In the first year, 1915, the appropriation was made in a lump sum, and we got $2,000,000 when we could have used considerably more to good advantage.

In the other years the appropriations have been made that we asked for, but as I say, you did not know whether you were going to get it or not. One year—I can not recall which year it was; it was the end of the last Congress—we had to get a special resolution through about 10 hours before the Congress adjourned in order to give us the money.

The CHAIRMAN. That was the continuing appropriation. They all had that condition. I hardly think—this is only an opinion—I do not think the delay in the construction of the road is due to any act of Congress or any lack of an act of Congress to appropriate the money.

Mr. EDES. No; it was due to the war.

The CHAIRMAN. Yes; I think it was due a great deal to the war.

Mr. HALLOWELL. Secretary Lane's views are very clear on the proposition of the work having been slowed up. In the first place, the continuing appropriation proposition, as Col. Mears will show later, is peculiarly adapted to Alaskan conditions. I will not go into those details because Col. Mears will.

In the second place there was a distinct shortage of labor in Alaska due to the war, and up to the time that Mr. Edes broke down in health the work was not slowed up, in Secretary Lane's opinion, because there were no appointments to fill vacancies of commissioners. If Congress puts the proposed bill on a continuing appropriation basis then Secretary Lane feels very distinctly that the work would slow up unless the vacancies were filled.

Mr. WATSON. Did the Secretary authorize you to make that statement?

Mr. HALLOWELL. That statement is made after conversation with the Secretary by me.

Mr. WATSON. I understand you to speak with authority from the Secretary of the Interior.

Mr. HALLOWELL. Yes; I am the Secretary's assistant.

Mr. WATSON. You are speaking for him in this matter?

Mr. HALLOWELL. Yes, sir.

The CHAIRMAN. Along that line, has an attempt been made to fill the commission, and has there been any inability to secure the right men, with the proper experience?

Mr. HALLOWELL. It was very difficult during the war to fill those positions.

The CHAIRMAN. What was the reason for that, because the engineers did not want to give up their other positions?

Mr. HALLOWELL. Very many of them were in war work, and going to Alaska on a non war-work proposition did not appeal to them.

The CHAIRMAN. So the Secretary thinks that the commission should have been filled or reorganized if it had not been for the war conditions?

Mr. HALLOWELL. And if the funds had been sufficient to push the work, and labor had been plentiful.

The CHAIRMAN. Those were war conditions.

Mr. DOWELL. In other words, it is the position of the Secretary that if this work is to go on to completion that there ought to be competent men placed on the commission in order to expedite and to continue the work with economy?

Mr. HALLOWELL. Because if these additional funds are granted it will be possible to push the work as it has not been possible during the war.

The CHAIRMAN. Have you anything further to add, Mr. Edes?

Mr. EDES. I have a statement I would like to make in regard to the town sites.

The CHAIRMAN. Do you want to ask him any questions in regard to the matter of town sites, Mr. Dowell?

Mr. DOWELL. I think a statement of that situation ought to be made here by somebody. I do not want to take up any great length of time on it, but I think a brief explanation of that should be made to us, and a statement of the purpose of that and what it has accomplished, and also in reference to the situation as it exists to-day.

Mr. EDES. The only town sites of any size were Anchorage and Nenana. Those were built under special regulations issued by the President through the Commissioner of the Land Office.

I will go on with my statement, Mr. Chairman. I will take up a few matters, which, while not very formidable in themselves or involving very large expenditures, seem to have excited considerable comment.

First, in reference to the town sites of Anchorage and Nenana. As the conditions under which these towns were founded were very similar and the regulations governing them are the same, I think it will be sufficient to consider the town of Anchorage. Somewhat contrary to general report, the town was not started as a money-making scheme for the Government or as a demonstration in Government management of town sites. It was a necessity.

An examination of the map will show that the railroad reaches the shore of Knik Arm over a large flat, on the north side of Ship Creek. This flat was all needed for railroad purposes and is now occupied by the terminal yards. When construction work began in 1915 people from all over Alaska flocked to Ship Creek and took up their residence in tents and shanties on this flat. At least 3;000 or 4,000 came. Although the commission doctors looked after matters carefully, there was danger of bad sanitary conditions developing. Besides, the people were much in the way of the railroad. Quarrels developed amongst them regarding squatter's rights. It was realized that the most feasible thing to do to relieve the situation was to lay out a town site where a person could acquire a lot at a reasonable figure and would not be interfered with. An excellent location was found on a table-land south of Ship Creek, and here was surveyed the town of Anchorage. The work was done under the jurisdiction of the General Land Office, the land being part of the public domain. A sale of lots took place and the people camping on the flat were notified they must vacate. Their removal to the new town site was accomplished without trouble and everyone seemed well satisfied.

Mr. MONAHAN. Who owns the titles to the lots?

Mr. EDES. The Government.

Mr. MONAHAN. The Government owns them all?

Mr. EDES. Yes, sir.

Mr. MONAHAN. And the houses on them?

Mr. EDES. No; they do not own the houses on them. I have here the regulations. The lots were sold on this basis. At the time of the sale a third of the amount was paid down on the purchase of the lot; then there was five years in which to complete the purchase, and there was no interest on the deferred payments.

The CHAIRMAN. This was the system. Of course, the United States Government owned the land.

Mr. EDES. Oh, yes; they owned the land.

The CHAIRMAN. They do not own it now?

Mr. EDES. The title is still in the United States.

The CHAIRMAN. The Government owns the land?

Mr. EDES. Yes.

The CHAIRMAN. Then the land was auctioned in lots of certain sizes——

Mr. EDES (interposing). Yes, sir.

The CHAIRMAN (continuing). And the person who bought those lots paid one-third down and was given five years to pay the balance of the money, and there was no interest charged on the deferred payments?

Mr. EDES. Yes; and then he acquires title, if he makes the payments. The time of those payments was extended one year because of the war and the difficulties in making payments.

Mr. DOWELL. Is that being continued now, that same system of town sites along the line of this road?

Mr. EDES. No; we have not put any on the market recently, and it is not the intention to continue that system. I will go on a little further and you will see the reason we had for these rules. Any person who has had experience in frontier towns along the line of a railroad under construction will realize the necessity of keeping their activities under pretty firm control. It was realized that unless there was some way of controlling the sale of liquor with its attendant evils and also controlling sanitation and fire in the towns, the construction of the railroad would be sadly interfered with and the enterprise acquire a bad reputation. It was realized that there would be a large influx of railroad workers who as a rule are not averse to consuming much liquor and making much trouble. It was decided by the General Land Office that the only way proper control could be exercised over these towns was to keep the title in the property in the United States Government for a number of years, or until such time as the necessity was over. I have shown the necessity for the establishment of the town. I insert a statement of the regulations governing the sale of lots, etc. These regulations were issued from the General Land Office.

(The matter referred to is as follows:)

The act of March 12, 1914, provides, among other things:

"The President is hereby authorized to withdraw, locate, and dispose of, under such rules and regulations as he may prescribe, such area or areas of the public domain along the line or lines of such proposed railroad or railroads for town-site purposes as he may from time to time designate.

"That all moneys derived from the lease, sale, or disposal of any of the public lands, including town sites, in Alaska, or the coal or mineral therein contained, or the timber thereon, and the earnings of said railroad or railroads, together with the earnings of the telegraph and telephone lines constructed under this act, above maintenance charges and operating expenses, shall be paid into the Treasury of the United States as other miscellaneous receipts are paid, and a separate account thereof shall be kept and annually reported to Congress."

The law with respect to this town-site provision was made effective by Executive order of June 19, 1915, which is here quoted:

"Under and pursuant to the provisions of the act of Congress, approved March 12, 1914 (38 Stat., 305), entitled 'An act to authorize the President of the United States to locate, construct, and operate railroads in the Territory of Alaska, and for other purposes,' it is hereby ordered that the administration of that portion of said act relating to the withdrawal, location, and disposition of town sites shall be in accordance with the following regulations and provisions, to wit:

"REGULATIONS.

"*Reservations.*—The Alaskan Engineering Commission will file with the Secretary of the Interior, when deemed necessary, its recommendations for the reservation of such areas as in its opinion may be needed for town-site purposes. The Secretary of the Interior will thereupon transmit such recommendations to the President with his objections thereto or concurrence therewith. If approved by the President, the reservation will be made by Executive order.

"*Survey.*—When in the opinion of the President the public interests require a survey of any such reservation, the Secretary of the Interior shall cause to be set aside such portions for railroad purposes as may be selected by the Alaskan Engineering Commission, and cause the remainder, or a part thereof, to be surveyed into urban or suburban blocks and lots of suitable size, and into reservations for parks, schools, and other public purposes and for Government use. Highways should be laid out, where practicable, all along shore lines, and sufficient land for dock and wharf purposes along such shore lines should be reserved in such places as there is any apparent necessity therefor. The plats of such survey will be prepared in triplicate, one for the General Land Office to be on tracing linen, one for the local land office, and one for the recorder of the proper recording district. The survey will be made under the supervision of the Commissioner of the General Land Office and the plats will be approved by him and by the chairman of the Alaskan Engineering Commission.

"*Public sale.*—The unreserved lots will be offered at public outcry to the highest bidder at such time and place, and after such publication of notice, if any, as the Secretary of the Interior may direct, and he may appoint or detail some suitable person as superintendent of the sale to supervise the same, and may fix his compensation and require him to give sufficient bond.

"*Superintendent's authority.*—Under the supervision of the Secretary of the Interior, the superintendent of the sale will be and he is hereby authorized to make all appraisements of lots and at any time to reappraise any lot which in his judgment is not appraised at the proper amount, or to fix a minimum price for any lot below which it may not be sold, and he may reject any and all bids for any lot and at any time suspend, adjourn, or postpone the sale of any lot or lots to such time and place as he may deem proper.

"*Manner.*—Bids may be made either in person or by agent, but not by mail nor at any time or place other than the time and place when the lots are offered for sale hereunder, and any person may purchase any number of lots for which he is the highest bidder. Bidders will not be required to show any qualifications as to age, citizenship, or otherwise. If any successful bidder fails to make the payment and file the application and other papers at the time and in the manner hereinafter required the lot awarded to him may be reoffered for sale, and his right thereto will be forfeited. Nothing herein will prevent the transfer by deed of the interests secured by the purchase and the partial payment for the lot, but the assignee will acquire no greater right than that of the original purchaser, and the final entry and patent will issue to the original purchaser when all payments are made.

"No lot will be sold for less than $25, and no bid exceeding that amount will be accepted unless made in multiples of $5, the minimum of $25 on each lot sold for less than $75 must be paid in cash within the time hereinafter specified, and if the price bid is $75 or more, one-third of the bid price must be paid in cash within said specified time; the remainder of the purchase price will be divided into five equal annual installments, payable in one, two, three, four, and five years, respectively, from the date of the register's certificate of sale, and no final certificate of entry will be issued until the expiration of said five years and until payment has been made in full for the lot, and no patent will be issued thereon during said period. The successful bidder will be given by the superintendent of sale a memorandum certificate for identification purposes, showing name and address of bidder, lot and amount of bid, and the bidder must file it with the superintendent of sale before the close of the next succeeding sale day, or the next business day if bid is accepted on last sale day, together with his application to purchase the lot properly filled, signed, and acknowledged before any officer authorized to administer oaths and using an official seal, and accompanied by the cash payment required by these regulations, all on the forms attached hereto, respectively, and hereby approved and made a part of these regulations.

"The superintendent of sale will issue a memorandum receipt to the bidder for the money paid, describing the lot purchased, and he will as soon thereafter as possible deposit with the receiver of the proper local land office the money received, and file with its officers the papers deposited with him by said bidder, together with his certificate as to successful bidder. Thereupon, if no objection appears, the register will issue his certificate of sale in duplicate and transmit the duplicate copy to said bidder.

"If it be deemed advisable, the Commissioner of the General Land Office may direct the receiver of public moneys of the proper district to attend sales herein provided for, in which event, the cash payment required shall be paid to said receiver who will issue his official receipt therefor, in lieu of the memorandum receipt of the superintendent of sale.

"*Conditions and forfeitures.*—If any lot or lots sold or any part thereof shall be used for the purpose of manufacturing, selling, or otherwise disposing of intoxicating liquors as a beverage, or for gambling, prostitution, or any unlawful purpose before final payment is made, and during a period of five years from the date of register's certificate of sale, or if the purchaser shall fail during said period to comply with any and all regulations and requirements which the Secretary of the Interior, in his discretion, may make or authorized to be made, for the improvement of streets, sidewalks, and alleys, promotion of sanitation and fire protection in the town site, all rights of the applicant under his purchase of said lot or lots shall terminate and a forfeiture thereof and of the payments theretofore made thereon may be declared by the Secretary of the Interior, and his finding of fact thereon shall be final. If any person who has made partial payment on the lot purchased by him fails to make any succeeding payment required under these regulations at the date such payments become due, the money deposited by such person for such lot will be forfeited, and the lot, after forfeiture is declared, will be subject to disposition as provided herein. Lots remaining unsold at the close of sale,or thereafter declared forfeited for nonpayment of any part of the purchase price under the terms of the sale, will be subject to future disposition at public sale at such time and place as may thereafter be provided.

"*Warning.*—All persons are warned against forming any combination or agreement which will prevent any lot from selling advantageously, or which will in any way hinder or embarrass the sale, and all persons so offending will be prosecuted under section 2373 of the Revised Statutes of the United States, which reads as follows:

" 'Every person who, before or at the time of the public sale of any of the lands of the United States, bargains, contracts, or agrees, or attempts to bargain, contract, or agree, with any other person, that the last-named person shall not bid upon or purchase the land so offered for sale, or any parcel thereof, or who by intimidation or unfair management hinders or prevents, or attempts to hinder or prevent, any person from bidding upon or purchasing any tract of land so offered for sale, shall be fined not more than $1,000 or imprisoned not more than two years, or both.' "

Upon the basis of the law and this order, on December 28, 1916, Secretary Lane issued the following order:

"The Chairman of the Alaskan Engineering Commission.

"SIR: Upon your recommendation the Alaskan Engineering Commission is hereby authorized to expend, from appropriations made for the construction and operation of railroads in Alaska, such sums as may be necessary in the judgment of the commission for the maintenance of school facilities for children of its officers and employees, in unincorporated towns on the line of the Government railroad, until sufficient funds are available for school purposes in those towns through contributions from Territorial funds or other sources. You are advised that the temporary authorization given in my telegram of November 15, 1916, was intended to include the payment of expenses incurred for school purposes during the several months prior to that date."

Further regulations concerning town sites were promulgated by the chairman of the commission April 12, 1916, here quoted:

"ORDER.

"By virtue of authority vested in me by the Executive order of April 10, 1915, there is hereby created a land and industrial department of this commission, which department will have entire charge, under the immediate supervision of the chairman, of the following subjects:

"(1) Encouragement of the development of the natural resources tributary to the railroad by bringing about a closer cooperation between the merchants, miners, and the farmers.

"(2) Dissemination of information to the public relating to the construction and operation of the railroad, and to furnish to the public reliable information on the natural resources and possibilities tributary to the railroad.

"(3) All questions involving the purchase of lands and improvements thereon owned and controlled by the commission.

"(4) All matters relating to real estate and land improvements thereon owned and controlled by the commission.

"(5) The withdrawal of lands of the United States for town-site and railroad purposes.

"(6) The designation of land for town site and other purposes.

"(7) Cooperation with the General Land Office in the surveying of town sites.

"(8) The reservation of lots and blocks within town-sites for public purposes.

"(9) The appraisal and sale of lots under the Alaskan Railroad Town-Site Regulations.

"(10) The management of towns after the sale of lots and all matters incidental thereto.

"(11) The leasing of lands under the control of the commission.

"(12) Restoration to entry to any and all lands which may have been withdrawn for town-site or railroad purposes.

"(13) Creation of timber reservations and the elimination of lands from such reservations.

"(14) Any changes in the public-land laws and regulations thereunder.

"(15) Any changes in the town-site laws and the regulations thereunder.

"(16) All legal questions involved in any of the above subjects, and such questions of law as may be referred to it by the chairman.

"All matters relating to the above subjects will be referred to the land and industrial department for consideration and appropriate action, and such matters as involve major questions of policy and procedure shall receive the approval of the chairman.

"The headquarters of this department will be at Seward, Alaska, and the head thereof will report directly to the chairman."

On October 25, 1918, the President promulgated Executive order No. 2982, next quoted:

### "ALASKA—MODIFICATION OF RAILROAD TOWN-SITE REGULATIONS.

"It having been made to appear to me that, as a result of conditions produced by the war in which this country is now engaged, it will be for the best interests of the Territory of Alaska, of certain towns in said Territory hereinafter named, and of the railroad now under construction by this Government in that Territory, that the time or times fixed and prescribed by administrative regulations for the payment of certain portions of the purchase money due or to become due on lots in said named towns, which have been heretofore sold in accordance with said regulations, shall be enlarged and extended:

"Now, therefore, in and by virtue of the authority vested in me by the act of Congress of March 12, 1914 (38 Stats., 305), entitled 'An act to authorize the President of the United States to locate, construct, and operate railroads in the Territory of Alaska, and for other purposes,' I do hereby order and direct that all lot payments falling due in August, 1918, and all lot payments falling due subsequent to August, 1918, in the towns of Anchorage, Matanuska, Nenana, and Wasilla, and in any additions thereto, be and the same are hereby extended for the period of one year from the date when the same became or become due. Lot payments in said towns falling due prior to August 1, 1918, are not hereby extended. Executive order No. 2214, issued June 19, 1915, and all other orders conflicting herewith are hereby modified to conform with this order."

I can read the entire regulations if desired, but wish to call your attention particularly to the paragraph entitled "Conditions and forfeitures," reading as follows:

If any lot or lots sold or any part thereof shall be used for the purpose of manufacturing, selling, or otherwise disposing of intoxicating liquors as a beverage, or for gambling, prostitution, or any unlawful purpose before final payment is made, and during a period of five years from the date of register's certificate of sale, or if the purchaser shall fail during said period to comply with any and all regulations and requirements which the Secretary of the Interior, in his discretion, may make or authorize to be made, for the improvement of streets, sidewalks, and alleys, promotion of sanitation and fire protection in the town site, all rights of the applicant under his purchase of said lot or lots shall terminate and a forfeiture thereof and of the payments theretofore made thereon may be declared by the Secretary of the Interior, and his finding of fact thereon shall be final. If any person who has made partial payment on the lot purchased by him fails to make any succeeding payment required under these regulations at the date such payments become due, the money deposited by such person for such lot will be forfeited, and the lot, after forfeiture is declared, will be subject to disposition as provided herein. Lots remaining unsold at the close of sale, or thereafter declared forfeited for nonpayment of any part of the purchase price under the terms of the sale, will be subject to future disposition at public sale at such time and place as may thereafter be provided.

It should always be borne in mind that a large proportion of the inhabitants of the town are employees of the engineering commission, directly connected with the construction of the railroad. In order to retain the services of many valuable married employees it was necessary to provide facilities for educating their children. A schoolhouse was erected, and at one time there were about 280 pupils. Water and electric-light systems were established which supply not only the town of Anchorage but the Government utilities in the terminal yards. Water and electricity are sold at reasonable rates, and a certain amount of the cost of installation of the water plant is assessed against the property in the town. The electricity is supplied by a plant located in the railroad yards. The various street and sidewalk improvements made in the town are assessed against the property, also the sewers. An efficient fire protection has been provided, the maintenance of which is charged against the property owners. All improvements are made and assessments collected under the supervision of a town-site manager appointed by the chairman of the engineering commission, to whom he reports.

The policing of the town is under the control of the United States marshal.

While the paying of assessments is but another form of taxation, we claim that the cost to the people of the town is considerably reduced because the administration of affairs is carried on economically and efficiently.

Before making street or sidewalk improvements, the property owners most directly interested are consulted, and the will of the majority prevails. The only improvements that might be said to have been forced upon the people are those rendered necessary for fire and sanitary protection. Both Anchorage and Nenana have an advisory council elected by the people, which while not having any legal standing, freely consult with the town-site manager or the chairman of the commission as to improvements to be made.

I have at length tried to make clear the circumstances under which the towns of Anchorage and Nenana were founded and the manner in which they are managed. This management has, in my opinion, been a great success. While there was, previous to the enactment of the "bone-dry law," considerable smuggling of liquor, the absence of open saloons and dance halls resulted in remarkably orderly towns. Being present in Anchorage on July 4, 1917, when there were probably 5,000 people of all nationalities there, I saw no case of extreme drunkenness or disorder. This is much more than could be said of any of the incorporated towns in the Territory.

The "bone-dry law" going into effect in January, 1918, removed the necessity of the regulations regarding sale of liquor, and they have been repealed. The most recent regulations for the sale of lots in new town sites provide for two annual payments, when title will be given.

On April 17, 1917, Congress passed the following act (Public No. 2, 65th Cong.), devoting one-half the proceeds of the sale of town lots to improvements in the towns:

> That until June 30, 1918, not to exceed 50 per centum of the moneys received from the sale of lots or tracts within any town site or town sites heretofore or hereafter sold pursuant to the provisions of the act of March 12, 1914, entitled "An act to authorize the President of the United States to locate, construct, and operate railroads in the Territory of Alaska, and for other purposes," may, in the discretion of the Secretary of the Interior, be set apart and expended within the respective town sites in which such lots or tracts are sold, for the purpose of preparing the land for occupancy, the construction, installation, and maintenance of public utilities and improvements, and the construction of public-school buildings, under such terms and conditions as the Secretary of the Interior may prescribe, and the moneys so set apart and designated are appropriated for the purpose of carrying these provisions into effect; *Provided,* That such moneys as may have been heretofore or may hereafter be expended for such purposes under and by authority of the Alaskan Engineering Commission from the funds at its disposal shall be reimbursed from the amount designated for the purposes herein provided: *Provided, further,* That a report of the expenditures hereunder shall be made to Congress at the beginning of each regular session.

Relative to the suggestion that the management of the town sites located on the lines of the Alaskan Railroad should be turned over to the citizens of those communities, the Executive orders and regulations attached hereto will determine that under the law this will not be practicable until title shall have passed from the Government to the purchasers of said property. Power to tax property the title to which is vested in the United States Government does not reside in a municipal organization. Until such time as under the law the title has passed from the United States to the purchasers of town property the organization of a municipality would be ineffective. The five-year period for the acquirement of such title in some of the towns of the Alaskan Engineering Commission would have expired in August, 1918, had it not been necessary to extend the time for the perfecting of such titles for the period of one year in order to accommodate conditions arising from the war. By Executive order of October 25, 1918, final payments due in August, 1918, were postponed for one year.

In the statements which have been filed showing the investments out of the Alaskan Engineering Commission appropriations no account was presented of the cost of operating and maintaining these town sites, for the reason that the cost of such operation and maintenance is recovered by special assessments made upon the residents of such community, by means of which the cost of such operation and maintenance is recoverable. For example, since the establishment of the town site of Anchorage, in 1915, to June 30, 1918, four tax levies for maintenance have been assessed against the town-site property, in each case covering expenditures made by the commission for periods of less than a year. The total cost of maintenance and operation for this period as recovered by the town-site tax was $99,981.45, from which must be deducted $23,061.75 collected in water rents for services rendered, leaving the net expenditures for maintenance $76,919.70. The total of the four assessment rolls amounts to $54,381.34, less cancellation of $1,350.13, leaving a net amount of $53,031.21 to effect this $76,919.70 expenditure made by the commission.

It is expected that the delinquent taxes for maintenance will either be collected or recovered from the sale of the property for delinquent tax. The remainder of the cost of operation, that is, the difference between $76,919.70, which is the net cost of maintenance and operation, and the $53,031.20 recoverable on the assessment rolls, to wit, $23,888.49, is a proper allocation of the cost of maintenance against the property of the United States unsold within such town site, and against the improved property owned and rented by the Alaskan Engineering Commission to its employees, which amount is recoverable from the occupants of such property through the medium of the rental charges collected therefrom.

While on the subject of town sites there should be mentioned the Government cottages that have been built for the use of married employees.

Housing conditions which prevail in industrial centers of the States during the progress of the war illustrate the importance and necessity, which was anticipated by the Alaskan Engineering Commission, of providing proper housing for its employees in the towns and camps located along the line of that railway. Aside from the question of the profitable nature of the investment, from the standpoint of monetary return, the creation and the maintenance of a proper morale amongst its employees led the commission to provide ample housing facilities. The superior character of these facilities over the average Alaskan habitations has had the tendency to attract to its employment the better class of assistants and has enabled the commission in a large measure to retain them, despite the more attractive conditions which prevail in the States. But, in addition to this factor, the financial aspect of the investment, properly considered, is one that would have proved attractive to any private investor, for the monthly rentals are based upon a return of 10 per cent, plus the maintenance charges accruing against said property.

This, it must be apparent, is a larger return than private investors demand; yet it has contributed to a contented and loyal corps of willing workers, and the best evidence of this fact is that Alaskans who enter the employ of the engineering commission are eager to embrace the opportunity to occupy its cottages. The commission has not built as many cottages as would supply the demand, and in consequence of this many of its employees have become purchasers of property in the several communities established by it and have erected their own homes.

Furthermore, the influence of proper housing conditions upon the salaries and wages should not be underestimated. Men of family, afforded comfortable homes with modern conveniences, ample school facilities, proper police protection, and such community regulation as enable them to raise their children in proper surroundings and in association with other persons of refinement and culture, naturally consider these conditions as offsetting the differences of income. The Alaskan Engineering Commission, because of its superior housing and the superior quality of its food supplies, has been able to keep its employees in spite of higher wages offered in other lines in Alaska. One of the indictments against the commission among the Alaskans is that it has lowered the wage scale. But the fact that miners prefer to work for the Alaskan Engineering Commission shows that the influence of living conditions upon their choice has been salutary.

But the income from rentals alone justifies the investment without reference to these other considerations.

The total investment in the Government cottages at Anchorage was $146,360.97. The total received from rents from such cottages up to April 1, 1919, was $21,360.03. The first of these cottages was erected in 1915; the last in 1916. They have not been continuously occupied, but some of them have been vacant for intermittent periods. Nevertheless the rental return in the three years since the construction of these cottages was begun has amounted to approximately 14 per cent of the cost thereof. While this would appear to be less than 5 per cent per annum upon the investment, it must be understood that some of these cottages have not been finished more than one year. I offer a statement of the annual return from 14 of the cottages in Anchorage as an illustration:

*Statement of rents received from Government cottages at Anchorage, Alaska, and per cent return on investment.*

| Cottage No. | Cost to complete. | Period rented, years. | Total rent received. | Average rent per year. | Per cent per year on cost. |
|---|---|---|---|---|---|
| 2 | $2,516.97 | 3 5/12 | $571.35 | $167.22 | 6.6 |
| 4 | 2,516.97 | 3½ | 504.19 | 144.05 | 5.7 |
| 6 | 2,516.97 | 3 | 755.75 | 251.91 | 10.6 |
| 8 | 2,516.97 | 3 1/12 | 461.80 | 149.77 | 6.0 |
| 16 | 2,956.17 | 2⅓ | 550.53 | 235.94 | 8.0 |
| 17 | 3,694.12 | 2⅙ | 721.61 | 333.05 | 9.0 |
| 20 | 3,839.59 | 2⅙ | 716.13 | 330.52 | 8.6 |
| 22 | 11,353.35 | 1½ | 800.87 | 533.91 | 4.7 |
| 23 | 4,370.45 | 2 5/12 | 866.00 | 358.34 | 8.2 |
| 25 | 3,836.00 | 2¼ | 747.33 | 332.14 | 8.6 |
| 27 | 3,501.18 | 2¼ | 740.48 | 329.10 | 9.3 |
| 29 | 11,960.66 | 2⅙ | 1,321.28 | 609.82 | 6.0 |
| 30 | 5,805.65 | 2¼ | 801.29 | 356.13 | 6.1 |
| 34 | 2,923.98 | 2⅓ | 553.33 | 237.14 | 8.1 |
|  | 64,309.03 |  |  | 4,369.04 |  |
| Average per cent |  |  |  |  | 6.8 |

The cottages at Seward, in which the total sum of $6,640.70 has been invested, have brought in a total return in rentals of $1,309, approximately 20 per cent of the total cost.

The cottages at Nenana, in which the total investment to date has been $45,457.92, have produced a total return of $6,180.33, a return of approximately 14 per cent upon the total investment. These cottages have been available for occupancy for approximately three years, with intermittent periods of vacancy. Both Nenana and Anchorage will necessarily be the headquarters for the operating force of this railroad for all time to come, whether the railroad is in Government operation or not, and the cottages will necessarily be required for the housing of employees in operation of the railroad. The investment in these cottages from every standpoint is not only justified but was demanded by existing conditions. As far as possible, native lumber was employed in the construction of these cottages, and while they are of superior character, they are by no means elaborate in design or appointment. An effort was made to maintain a certain degree of harmony in the architecture and to establish a standard which would be emulated by those who populated these cities. The influence of this effort has resulted in the building not of model towns as has been stated before the committee but of communities wherein the aspirations of its people have found expression in a better type of construction than was characteristic of Alaskan communities. The log house and the tar-paper shack of the pioneer days is but little in evidence in towns along the line of this railroad. The quick and rapid growth and the prosperity of these communities has engendered a spirit of community jealousy in the older settlements which is unfortunate, but which, if Alaska is to reach its destined importance, will soon be found to have been unjustified. If Alaska is to take its right place, there will be hundreds of such communities throughout the valleys of the interior and the regions served by this railroad, and the prosperity of Fairbanks and of Seward, the natural distributing centers, will manifest the importance to them of the establishment and encouragement of these feeder communities.

While it is probable that there will be a considerable fluctuation in the population of these towns, it is believed that both have a good future before them. Both of them are natural division points in the future operation of the railroad. Nenana will be the point of transfer from the railroad to the river points on the lower Tanana and the Yukon. The buildings erected there are all necessary in the construction and operation of the railroad.

Leaving aside the question of the relative importance of Anchorage and Seward as ocean terminals, the former is unquestionably the proper location for permanent repair shops. The principal requirements for shops are plenty of room for yard tracks, an abundant water supply, and cheap fuel. All of these can be found there. The buildings already erected for the construction purposes will mostly be available for the future operation of the road.

There seems to have been some confusion regarding the contemplated permanent improvements on the water front, the erection of a wharf, and the dredging. We have expended for this purpose $124,618.16, and the estimate to complete is $125,000. The expenditures that have been made at this point in the nature of temporary wharves, marine ways, etc., are such as would have been necessary for any contractor to have established to carry on his work.

I asked the land office, under whose jurisdiction this land all came, if some conditions could be put in the deeds, some restrictions could be put in the deeds controlling the sale of liquor, preventing open saloons. The lawyers worked on it for some time and they said the only way that could be done was for the United States to keep the title until such time, that probably five years would be long enough.

Mr. DOWELL. The United States still has the title to the land?

Mr. EDES. The United States still has the title to the land; yes, sir. Five years was the original time for payment, but it was extended one year because of the war and the difficulties in making payments.

Mr. DOWELL. You say it is not the policy of the commission to continue the sale of these lots?

Mr. EDES. Not to continue the sale under these conditions, and for this reason: Alaska now has a bone-dry law in regard to the sale of liquor, and it is all controlled in that way. There is no necessity particularly for us to take any part in that at all.

Mr. DOWELL. Then, so far as that feature of your plan is concerned, that has been terminated?

Mr. EDES. Yes, sir; we sold one or two little places; we sold lots in Seward and another place, giving title in two years. If a man has complied with the requirement in two years he gets a title.

The CHAIRMAN. Was not that system adopted by the commission to prevent the sale of intoxicating liquor in the towns and to check the red-light district?

Mr. EDES. Yes, sir; and to control sanitation and the health of the town. That was probably as important as the other.

The CHAIRMAN. Those three things in particular were the reasons for the system adopted by the commission in the creation of town sites, the control of them, and the sale of the land?

Mr. EDES. The actual policing of the town is done by the United States marshal. The old regulations provided that if anybody was convicted of selling liquor on their lot the lot could be forfeited. Those were the reasons for keeping the title so long in the hands of the Government. In fact now that condition has been repealed. Some of the bankers claim that it affected the titles, and when the bone-dry law went into effect there was no longer that necessity, and the President rescinded the order, so that now it is not in effect.

The CHAIRMAN. When you evolved this system of the creation and control of town sites in Alaska, Alaska was wide open so far as liquor and gambling were concerned, and since that time they have stopped gambling, and they have closed up the saloons and have a bone-dry law?

Mr. EDES. Yes, sir.

The CHAIRMAN. And the sanitation part has been taken care of, so that the citizens in the town can now continue that without any further material assistance from the Government?

Mr. EDES. They could not do it yet in Anchorage, because they have not acquired title. As soon as they acquire title they can incorporate.

Here is a matter that I understand has been presented pretty carefully to you gentlemen. It is in regard to the method of constructing the lines, the station men versus the general contractor. It has been stated on several occasions that if the work had been let to a general contractor in 1914 instead of doing it by station men, as has been done, it would have cost the Government much less and would have been completed in two years. I will say, however, that this statement has never been made by anyone familiar with railroad construction. On the contrary, all railroad men who have reviewed our work compliment us on the methods used.

I will briefly explain that "station men" are associations of men banded together to take short pieces of work. Each man becomes a partner and does his portion of the work and receives his portion of the pay. You might have half a dozen gangs of "station men" on a mile of heavy work. I assume this method of letting work is familiar to you gentlemen, but if not, I should be pleased to explain it further. I contend that it was the most feasible way to do the work in Alaska, especially under the conditions that have prevailed for the past five years. To say that a general contractor would have done the work in two years is absurd. There is no contracting firm in the country that would have attempted to do it.

From calculations that have been made it can be shown that if conditions prevailing in the spring of 1914 had continued through the succeeding years the road could have been finished well within the authorization of $35,000,000. It is not necessary to call your attention to the enormous advance in cost of everything during the past few years. Mr. McPherson has set this forth in detail in his statement, and besides, you gentlemen all know it.

Mr. WATKINS. There are three things we are particularly interested in now in connection with this matter—first, the cause of the delay in the construction; second, the reason for the extra cost, why did it cost more than we expected, to begin with, when we appropriated $35,000,000; and the third is the absolute necessity of the closing up of these gaps in these two roads, and what effect it would have. I would like to have those questions answered so that we could get that information from the chairman of the commission.

Mr. EDES. Anything you ask I will be glad to answer.

Mr. WATKINS. What is the reason you assign as to why the road was not completed with the $35,000,000 appropriated and in the time contemplated?

Mr. EDES. I do not know what particular time was contemplated. The reason it has not been completed for the amount appropriated is because of the enormous increase in labor cost and the cost of all kinds of supplies, the cost of freight and everything connected with the building of the railroad.

Now, for instance, when we first went to Alaska in 1914 we hired men at 37½ cents an hour, while we are now paying them 55.

Mr. WATKINS. That is cheaper than you get them in the States.

Mr. EDES. I am not so familiar with that. That is for what we call common labor. Skilled labor is higher in proportion. Mr. McPherson set forth the comparative costs of everything. Some things have gone up 50 per cent and some things 100 per cent. For instance, we use a great deal of lumber, and lumber has gone up over 100 per cent, and the freight charges have also gone up. We used to get rails for $6 during the first year; that is, the freight on rails was $6 during the first year, while now the freight is $12.50.

Mr. MONAHAN. I think it came out in the course of the hearing that there was a shortage of labor, and that the men you got were inefficient; that you had to take old men because the big strong boys left on account of the war.

Mr. EDES. That would apply to the last year or two, although I would not call them inefficient. There was a great scarcity.

Mr. MONAHAN. I do not believe he said that, but that the help you had in the latter years during the war was not as efficient as the help you started with.

Mr. EDES. That might be. It was much less in number.

Mr. MONAHAN. That was, in substance, what you said, was it not, Mr. McPherson, that one of the reasons for the delay in building the road was the fact that you lost the best help you had because of the war, that you had less help, and the help that you had was not as efficient as the help you formerly had because the young strong men were gone.

Mr. MCPHERSON. In a general way, that covers it.

Mr. EDES. You could not have completed it for $35,000,000 under the conditions which have prevailed in the last three or four years.

The CHAIRMAN. I would like to have Mr. Edes complete his statement as soon as possible so that we may hear Col. Mears.

Mr. WATKINS. That is the question I wanted to ask you. It looks like it is a self-evident proposition that the gap between the two lines of railroad ought to be filled in with a view to the absolute necessity for the road. That is why we should spend $17,000,000 additional for the purposes of closing up the gap.

Mr. EDES. There is a great interior country around Fairbanks that should be given access over the railroad to the coast. They have a very long roundabout way of getting out now. And besides their freight can only be taken in four or five months in the year. There is a very long roundabout way up the river. There is a very fine piece of country around Fairbanks. There is a good deal of farming going on, but the principal industry has been mining. During the last year while gold mining has been at a discount, undoubtedly there is a great deal of good territory there to be mined when they can get cheaper transportation and when it is easier to get there. This is a great interior country that ought to be connected with the outside, and you have to have a railroad to do it.

The CHAIRMAN. This railroad is sought for the purpose of developing Alaska.

Mr. EDES. Yes, sir.

The CHAIRMAN. If the road is not constructed how are you going to develop the interior of Alaska? If you have this road from Fairbanks, and a piece of road running from Seward and they do not connect, how are you going to accomplish the intent of Congress, which is the development of the interior of Alaska through this railroad? Can you develop Alaska unless you build the road?

Mr. EDES. I do not think you can.

Mr. WATKINS. On what basis is the estimate of $17,000,000 founded. Why do you estimate for $17,000,000? What do you base the estimate on?

Mr. EDES. That is taking into account all the work that has not been done. We base it on that. We figure on so many cubic yards of rock to be removed at so much a yard; so many tons of rails, and so on with everything connected with the building of the road. We have had our engineers there go very carefully over the unfinished part of the road.

Mr. WATKINS. Have you got an itemized statement showing the amounts that make up the $17,000,000.

The CHAIRMAN. There is an itemized statement which was given on the first day of the hearings. That is in the record. That shows where every dollar is to be used.

Is there anything further any members of the committee want to ask Mr. Edes? If there is not, we will hear Col. Mears.

Mr. WATKINS. Mr. Edes, you are the chairman of the commission?

Mr. EDES. Yes.

Mr. WATKINS. How long have you been chairman?

Mr. EDES. Since 1914.

Mr. WATKINS. Since the beginning?

Mr. EDES. Yes, sir.

## STATEMENT OF COL. FREDERICK MEARS, CORPS OF ENGINEERS, UNITED STATES ARMY.

The CHAIRMAN. Col. Mears is here, and we will be very glad to hear him at this time.

Col. MEARS. Mr. Chairman and gentlemen of the committee, in this statement which I have prepared there will be a great many of the questions which are in the minds of the members of the committee automatically answered, and I suggest that you permit me to make this statement first, and then if there are any questions you desire to ask I will be very glad to answer them.

Mr. Chairman, I have just returned to Washington in the last few days in response to a telegram from the Chief of Engineers of the United States Army to the effect that my presence was desired before your committee in connection with the Alaska Railroad.

Upon my return from France in June, and before going to the Mexican border, I made a study of the estimates of cost prepared by Mr. McPherson for the completion of the Alaska Railroad and since my return to Washington, in the last few days, I have made myself familiar with most of the testimony taken by your committee at those hearings, and at the suggestion of Mr. Hallowell, in order to avoid a repetition of facts and statements to your committee, I have made note of one or two points which, in my judgment, I could profitably elaborate on, to some extent, with the view of giving your committee more complete information on those particular subjects.

With your permission, I will, therefore, refer to them in the following statement:

My connection with the Alaska Railroad work began in 1914, when I was appointed a member of the commission, coincident with the appointment of Mr. Edes as chairman of the commission.

As has been stated, the year 1914 was given over to field surveys and preparation of estimates. In April, 1915, actual construction work was started, following the plan agreed upon by the commission.

Small groups of men—acting as individual contractors—were used on all work, whenever possible of accomplishment under this plan. These men are called stationmen; the term comes from the word "station," which is 100 feet right of way along the railroad line. These stationmen band together and form a partnership, and each signs the contract with the Government and each is individually paid by cash or Government check. They are paid according to the number of hours they actually put in on the work, all of which is calculated according to an established system of field time keeping best described by the application of this blank form, which I will explain later, if desired.

My object in mentioning this station work is not so much to comment upon it—of itself—as it is to lead up to what immediately follows, in my effort to convince the gentlemen of this committee of the necessity of a continuing appropriation for the completion of the Alaska Railroad.

The stationmen earn from $3 to $5 a day—sometimes more. They usually take a piece of work which requires about 60 to 90 days to finish and upon the completion of that contract, after a reasonable period of rest, they are ready to take another contract. Their earnings are paid to them in a lump sum upon the completion of their work.

If, by reason of shortage of funds, the commission is unable to proceed progressively and open new work, these station gangs may only receive one contract in the season and they have to wait in the vicinity at their own expense for more work to be given out. In their minds they look at the total amount of money received in the year more than they do the gain on any particular job—for if they make excellent wages for three months and have to spend those wages in living expenses—in the remaining nine months of the year they are not very far ahead.

A continuing appropriation, such as is provided for in the bill under consideration, will overcome this very great difficulty. It will permit the engineer on the ground to keep his men employed to the greatest extent permissible by climatic conditions.

The laboring man understands these things better, perhaps, than we appreciate. He does not expect to be given work continuously throughout the 12 months in a climate like Alaska, but when he knows full well that solid rock excavation can be accomplished at the same expense to the Government when contracted for in the winter as in the summer he expects his share of "summer" work and his share of "winter" work, and it is the part of wisdom and economy to give it to him.

The lack of funds necessary to prosecute the work, or the uncertainty as to when such funds would be available, and if available in what amounts, has been the means of preventing the commission from always going ahead on a systematic basis—not only with respect to handling labor but also in regard to many other features of the work.

The grading of a piece of line on the Alaska railroad starts a long way from the actual physical spot on the right of way both in time and distance. It starts first in the office of the engineer when he figures out what part of the line he will build during the open season. The number of men to be employed is calculated the season before, and supplies for the men, such as food and clothing, and supplies for the work, such as powder and dynamite and necessary tools, are all provided for either by new purchase or from stocks on hand. Many of these supplies can be readily and cheaply transported to the work over winter sled roads and distributed to the points where needed as the work requires. In the spring, in April and May when the snow is off the ground, the men move in, take contracts along the right of way, and commence their summer's work.

The engineer in charge has to plan the summer's work at least by the 1st of January. The purchasing agent for the commission must be notified in January, in order to get out his advertisements for supplies required under Government procedure. He must arrange for the accumulation of these supplies in Seattle so as to ship them to Alaska during the spring and summer months and if there is any hitch in any of these proceedings caused by the lack of the necessary funds, loss in efficiency naturally results. The flow of a continuing appropriation is like the oil to a smoothly working engine. If the oil comes by fits and starts and sometimes stops altogether, the machine does not work as smoothly or as advantageously.

Now, it has been said that appropriations have been made steadily as the work progressed.

As the engineer in charge of the most important district on the Government railroad, I was in Alaska continuously, summer and winter, from April, 1915, to January, 1918, excepting two months which I spent visiting Washington in 1917 for conference with Chairman Edes and Secretary Lane.

I was frequently handicapped in the management of affairs for lack of necessary funds—not the "actual lack" of money so much as the utter lack of definite knowledge that the money asked for would be appropriated.

A few extracts from official reports will more clearly illustrate my remarks.

In the fall of 1915 we were practically out of funds, and in a letter I wrote to Secretary Lane, under date of December 4, 1915, which letter appears in print in the public document issued by the Sixty-fourth Congress, covering the hearings on the deficiency appropriations for 1916, I urged the appropriation of an emergency fund of $2,000,000 to continue progressive construction work and I also called attention at that time to the necessity for making a large initial appropriation for this project.

As a matter of information, I desire to read to your committee certain pertinent paragraphs which appeared in the letter referred to:

[Extracts from letter from F. Mears to the Secretary of the Interior, dated Anchorage, Alaska, Dec. 4, 1915.]

My Dear Mr. Secretary: I received your wire of December 1 yesterday in regard to delaying the appropriation for this work until July 1, 1916, and I replied to same immediately per copy of telegram attached.

I feel that this matter is of sufficient importance to ask for your personal consideration of the following remarks, which I will make as brief as possible. In fact, I deem it my duty to acquaint you with the situation just as it is and give you the benefit of certain recommendations.

My principal concern is in the wording of your message, which conveys the meaning that possibly no further appropriations will be made for this work until July 1, 1916. Such a result would be most unfortunate, if not disastrous, to this project. If you could be here on the ground, Mr. Secretary, could see the men available for this winter work, the supplies, the outfit, and the beautiful weather that we are having, you would ask yourself these questions: Why isn't this work going ahead? Why is not the clearing of the right of way along Turnagain Arm and along the Matanuska Branch line being done now? There are 100 miles of right-of-way clearing that I could start to-morrow if the money was available. The wood cutters could work better now than in August, with no mosquitos or flies, with no forest fires to endanger surrounding timber. All of the right-of-way clearing could be done economically this winter, as contracts could be let for a low figure at this time. Such work should start at once. It serves no useful purpose to postpone this work; on the contrary, it would be a decided advantage to have the timber out of the way by spring to avoid delaying the grading.

If it is the intention of Congress and the administration to build this railroad, a large portion of our estimate for said purpose should be appropriated immediately, particularly if any degree of economy or efficiency is expected. We can not carry on this work successfully, Mr. Secretary, with such meager appropriations. It would be better to abandon the entire project until the necessary funds are forthcoming. I haven't any particular desire to go to the penitentiary for statutory embezzlement in overruning our appropriation, neither have I any desire to sit down on the job with my hands folded for seven months of the year. There is no good reason why the work should not go ahead actively. There will probably never be a better time to secure good labor so easily. There are 400 or 500 station laborers in and near Anchorage now, all entirely idle, to say nothing of other men more widely scattered all over this section.

In writing the above report I have felt that you are entitled to a full expression of my opinion regarding the conduct of this work, particularly in view of the possible misconception of the situation on the ground.

There is not the slightest doubt of the projects requiring an ample appropriation of from $10,000,000 to $12,000,000, and I have taken this means to add my recommendation that such an amount be made available.

Cordially, yours,

F. MEARS, *Commissioner*.

Congress appropriated $2,000,000 in the urgency deficiency bill which became available on March 1, 1916, for the purpose of continuing the work until the regular appropriation for the fiscal year ending June 30, 1917, should be made available.

Hearings before the House Appropriations Committee on this item of $8,247,620 were held on March 14, 1916, and at that time the committee was asked to appropriate the full amount of $8,247,620 to prosecute the work between July 1, 1916, and June 30, 1917.

This the Appropriation Committee failed to do. They deducted the $2,000,000 previously appropriated from the total amount of the annual appropriation and made only $6,247,620 available to carry on the work for the entire fiscal year.

Chairman Edes's request to have the entire amount made available is contained in his testimony before the committee on March 14, 1916, which appears on page 734 of the hearings on the sundry civil bill, and Chairman Edes further urged the Appropriation Committee to pass this entire amount by a letter which he directed to Hon. John J. Fitzgerald, under date of March 16, 1916, and which letter appears in full on page 746 of the same volume.

Furthermore, the main appropriation, as reduced, was badly delayed and did not become available on July 1 as customary. Large items that the commission had planned to pay out of it had to be met by payment from the small deficiency appropriation, and this at a time when we had continuous daylight in Alaska for prosecuting the work. In a letter which Chairman Edes addressed to me from Washington, under date of May 5, 1916, he said:

WASHINGTON, D. C., *May 5, 1916*.

MY DEAR MEARS: I am in receipt of a letter from the Secretary cautioning me to make provision for the payment of $650,000 as final payment on the Alaskan Northern due July 5, next. If this payment is not made on time we forfeit the $500,000 already paid. Congress seems to be in something of a deadlock over the order of business and the appropriation bills are being delayed. It is possible, in fact quite probable, that we may have to make this payment from our two million emergency appropriation. It is imperative that we make provision for it. I hope we will not have to delay the work to any great extent, but we must provide for this payment.

Again, in the following year—in February, 1917—we were without reliable information about the availability of funds. An item of $3,000,000 in the sundry civil bill for the fiscal year 1918 had passed the House, as had the main appropriation, and due to a deadlock the sundry civil bill failed of passage in the Senate. As it was the short session of Congress, most energetic measures had to be taken to get a joint resolution put through, to make this $3,000,000 available.

It was only secured at 11 p. m. March 3. Meanwhile we, on the job in Alaska, were undecided as to how to proceed with our plans until the money was actually available.

The appropriation of $7,356,758.60 asked for by the Alaskan Engineering Commission in March, 1918, was cut to $5,250,000. This reduction, however, was largely a war measure and practically agreed to by Chairman Edes at the time.

During the past winter, so I am advised, the forces in Alaska have been on half pay, due again to the delay in the urgent deficiency bill, which has only just become available.

Nothing could be more unfortunate for the Alaska project than the appropriating of moneys by fiscal years—beginning and ending on July 1.

On June 21 we have the longest day in the year. In Alaska, practically continuous daylight, where two or three shifts can be employed to equal advantage. Now, if annual appropriations could have been made available as January 1, so as to plan ahead and make the preparations I have referred to, greater efficiency would have resulted. Under the enforced July 1 appropriation system there was bound to be a pause in plans and preparations to wait to see what Congress was going to do. The seasons were reversed in Panama, for on July 1 we had heavy rains. On January 1 we were at the beginning of the "dry" seasons, when most of our work was done.

Such uncertainty regarding the money does not make for efficiency. It is most important in Alaska that the engineer in charge have a regular program to work to. In this country if an appropriation fails of passage, the work can be shut down, and the men can find other employment, largely in the same neighborhood. Such is not the case in Alaska. Generally speaking, there is no other employment, and when men are laid off, due to a shutdown or temporary curtailment of work, they have to go "outside," paying a large price for steamer passage. All of these remarks argue for the passage of a continuing appropriation to carry the work to a successful conclusion.

I have also noted some reference in the testimony given before your commission to the question of employees' quarters erected by the commission at Seward, Anchorage, and Nenana out of funds appropriated for the railroad. In the construction of the Panama Canal, moneys were appropriated by Congress for the erection of living quarters for officials and employees down to the common laborer.

A married man was furnished a good house for himself and family. This house was equipped with beds, carpets, chairs, kitchen and dining room furniture. It was lighted by electricity. Wood and coal were delivered at the back door, all absolutely free of charge.

The Alaskan Engineering Commission built modern quarters for their employees also. They did not furnish these quarters free to married employees, however. Each married employee was charged with a substantial rent for his house. He paid for the coal and electric light supplied him at current rates. In other words, the investment was put on a remunerative basis. I am unable to understand how Congress can indorse such expenditures made at Panama and condemn them when made in Alaska. If it is hot in Panama, it is cold in Alaska. I spent eight years on the Panama Canal in a responsible position and am very familiar with every phase of the work there. Your committee can rest assured that there has been more economy practiced in the construction of the Alaskan Railroad than was the case on the Panama Canal.

I well remember the criticism of the work on the Panama Canal in the early days before congressional committees visited that job in large numbers, and I predict that after congressional committees have visited the Alaska Railroad work there will be little criticism made of the conditions found there by the returning members. They will see a job that has been somewhat handicapped by continual shortage of funds caused largely by the piecemeal appropriation plan, but with it all they will find a job well done and a real live railroad through a beautiful country that fully merits the continued support and assistance of every progressive American citizen.

I desire to submit to the committee the form of final settlement sheet with the stationmen.

(The paper referred to is as follows:)

### FINAL SETTLEMENT SHEET WITH STATIONMEN.

Name of contractors, John Smith & Co. Contract No. 1. Date of contract ....... Balance due herein after deducting working expenses only, ......., divided by ...... hours, equal ...... per hour gross. Balance due herein after deducting total expenses, ......., divided by ...... hours, equal ...... per hour gross. Balance due herein after deducting total expenses, ......., divided by ...... hours, equal ...... per hour net.

(Date of settlement), .....

Received of the Alaskan Engineering Commission the amounts set opposite our respective names in full satisfaction of all claims and demands whatsoever in connection with our contract with the Alaskan Engineering Commission dated ......, .., 191...

| Name. | Total hours worked. | Gross amount. | Deductions for personal accounts. | Net balance due. | Signature. | Check No. |
|---|---|---|---|---|---|---|
| John Smith.......... | 800 | $400 | $180 | $220 | Signed (Jno. Smith)............... | 56112 |
| Bill Brown.......... | 750 | 375 | 200 | 175 | Signed (Bill Brown)............... | 35127 |
| Thomas Jones....... | 780 | 390 | 175 | 215 | Signed (Thomas Jones)............. | 36121 |
| Walter Jones........ | 700 | 350 | 160 | 190 | Signed (Walter Jones)............. | 27176 |

A. E. C. Form 198a. (Form approved by Comptroller of Treasury May 4, 1916.)

Voucher No. .........
Settlement No. .......

### DEPARTMENT OF THE INTERIOR, ALASKAN ENGINEERING COMMISSION.

#### PUBLIC VOUCHER FOR SETTLEMENT UNDER CONTRACT.

(Appropriation: Construction and operation of railroads in Alaska.)

The United States,
To ..............................................................................., Dr.
Address, ..........................................

| | | |
|---|---|---|
| Contract No. ................ | Date of contract.................. | Kind of materials or work............ |

| | | | |
|---|---|---|---|
| | | Amount. | |
| | For articles or services as stated in detail on the reverse hereof, | | |

| | |
|---|---|
| I certify that the above bill is correct and just, and that payment therefor has not been received.<br>..............................................<br>By ..................................<br>Title ....................................... | Examined by—<br>.............<br>............. |

Correct as to prices, deductions, and computations:

.....................,
*District Accountant.*

Checked by—

.....................

Account submitted for ($....), differences as follows:

..................................

..................................

Approved for $......

I certify that the materials have been received by me in good condition and in the quantity and quality specified, or the work performed as stated; and that the stipulations of the contract and specifications have been complied with.

.......................................,
*District Engineer.*

I certify that the several amounts deducted for commissary coupon books, meal ticket books, rentals, and other charges are correct, and represent all that should be deducted from the amount earned under this contract; and that there is now due the said claimant the sum of ................ dollars ($......).

.......................................,
*Chief Accountant.*

Approved for $......

.......................................,
*Member Alaskan Engineering Commission.*

Paid by .......................... special disbursing agent. Check Nos......., dated ................ for ($......) on Treasurer of the United States, to order of claimants.

WORK PERFORMED UNDER CONTRACT, IN ACCORDANCE WITH ENGINEER'S CERTIFICATE.

Dated......................................., 191..

Date of commencement, ...................................., 191..

Date of completion, ........................................, 191..

| Kind of material or work. | Quantities. | Unit. | Contract price per unit. | Amount. | Notations. |
|---|---|---|---|---|---|
| | | | | | |
| Total amount of estimate.................................................. | | | | | |
| DEDUCTIONS. | | | | | |
| Contractor's working expenses, as follows: | | | | | |
| Commissary coupon books, as per statement. | | | | | |
| Rentals outfit, as per statement.............. | | | | | |
| Rentals live stock, as per statement.......... | | | | | |
| Hired labor, as per statement................. | | | | | |
| .............................................. | | | | | |
| Total amount of working expenses......... | | | | | |
| Contractor's personal expenses, as follows: | | | | | |
| Commissary coupon books, as per statement.. | | | | | |
| Meal ticket books, as per statement.......... | | | | | |
| .............................................. | | | | | |
| .............................................. | | | | | |
| Total amount of personal expenses ...................... | | | | | |
| Total charges.......................................................... | | | | | |
| Net balance due contractors................................................ | | | | | |

Mr. BROOKS. I would like to ask how long do you think it would take to complete the railroad with the proper amount of funds?

Col. MEARS. I have the estimates as made up here figured to the end of 1922, and I think they are as nearly right as you can get them, taking out this year that we have practically lost.

Mr. WATKINS. Do you think that the $17,000,000 authorized in the bill now before the committee will be sufficient, and is there any reasonable doubt as to that amount being sufficient to complete the work?

Col. MEARS. I do not think so. I think that is a reasonable appropriation to complete the work as outlined in the statement, right through to Fairbanks.

The CHAIRMAN. What rent did you charge for the houses up there?

Col. MEARS. We started out by charging 1 per cent of the cost of the house per month. If the house cost $1,200, we charged $12 a month, and the employees bought everything they needed—their own furniture, their own carpets, and they paid for electric lights and coal, and in that way we got away from the trouble we had in Panama.

Mr. BROOKS. In what amounts should this money be made available?

Col. MEARS. It should be made available in the entire amount, if you want the work to go ahead satisfactorily and progressively. As I have tried to illustrate in what I have already said, the men are there on the job, but if you let them off they will go out by boats, and that will cost them $60.

Mr. BROOKS. If it takes three years' to build it, you would not need $17,000,000 right away, would you?

Col. MEARS. If you send the money in dribblets you are going to have the same trouble you have had heretofore. You have got to start to-day and make up your list of materials and supplies which you are going to use next summer and fall, and when you get into Broad Pass it is worse than that; you have to figure 18 months ahead because the material has to be hauled there in the winter and put in warm storage for use after the snow is off the ground. You have to look a long ways ahead. That is what has not been appreciated by the Committee on Appropriations.

Mr. STRONG. What is the argument against making an appropriation in a lump sum?

Mr. BROOKS. I have no argument; I simply asked the question for information.

The CHAIRMAN. This committee does not make an appropriation; it authorizes an appropriation of $17,000,000 in this bill, and after this bill has been passed by both Houses and signed by the President, then the Committee on Appropriations will have to make the appropriation and it will be up to their judgment what amount will be appropriated. It may appropriate the entire amount of $17,000,000 at one time.

Mr. STRONG. Any man who has ever been in charge of the construction of a large piece of work will realize the handicap of having money doled out to him in piecemeal.

Col. MEARS. You never knew whether you were going to get it or not.

Mr. STRONG. I would not like to work for a lot of men like that.

Mr. HALLOWELL. May I read a short letter into the record?

The CHAIRMAN. Yes.

Mr. HALLOWELL. Before I read this I want to say that Col. Mears does not even suspect that I have this copy of a letter signed by the adjutant general of the American Expeditionary Forces. The letter says:

GENERAL HEADQUARTERS AMERICAN EXPEDITIONARY FORCES,
PERSONNEL DIVISION, DECORATIONS SECTION,
*France, June 10, 1919.*

By courier.
From: The Adjutant General, American Expeditionary Forces.
To: Col. Frederick Mears, United States Army.
(Through The Adjutant General of the Army.)
Subject: Distinguished-service medal.

1. Under the provisions of cablegram No. 2830, received from the War Department March 1, 1919, the Commander in Chief, in the name of the President, has awarded the distinguished-service medal to you for exceptionally meritorious and distinguished services, as set forth below:

COL. FREDERICK MEARS, UNITED STATES ARMY.

For exceptionally meritorious and distinguished services.

He served with distinction as commanding officer of the Thirty-first Railway Engineers, and later as assistant general manager and general manager, railway department, Transportation Corps. Due to his remarkable executive ability and skill as an organizer, the railways of the American Expeditionary Forces were operated with rare success, and the huge transportation problem, involving the carrying of tremendous quantities of supplies from the base ports to the front, was satisfactorily solved.

2. You will be informed later in regard to the time and place of presentation of the medal awarded you.

By command of Gen. Pershing:

F. L. WHITLEY, *Adjutant General.*

[First indorsement.]

201—Mears, Frederick W.
(Misc. Div.)

WAR DEPARTMENT, A. G. O., *July 10, 1919.*

To Col. FREDERICK W. MEARS, United States Army,
*Office of Chief of Engineers, Washington, D. C.*

For his information.

By order of the Secretary of War:

W. E. COLE, *Adjutant General.*

The CHAIRMAN. Col. Mears, are you familiar with the details of the purchase of the Alaska Northern Railway and the Tanana Valley Railroad?

Col. MEARS. I am very familiar with the details of the Alaska Northern Railway purchase. The purchase of the Tanana Valley Railroad was determined upon by the commission in conference with the Secretary of the Interior at a time when I was on duty in Alaska, and I am not as familiar with those details as I am with the details of the Alaska Northern Railway. However, I am familiar with the subject sufficiently to give you a good deal of information about the purchase, if you so desire.

The CHAIRMAN. Will you please recite in your own way the story of the purchase of those two roads, showing what was paid for them and what you got for the money and if you know what the cost of the construction was to the owners of those roads. Please also make clear to the committee the circumstances which made the purchase of those roads advisable or necessary, and state from whom they were purchased.

Col. Mears. As set forth in detail in the report of the Alaskan Engineering Commission covering their investigations of railroad routes in Alaska, made during the summer and fall of 1914, very complete investigations were made of the Copper River & Northwestern Railroad, leading from Cordova to the Kennicott mines, of the Tanana Valley Railroad (narrow gauge) in the vicinity of Fairbanks, and of the Alaska Northern Railway, which runs through the Kenai Peninsula from Seward northward for a distance of about 71 miles.

The examination of the Alaska Northern Railway was carried on under the direct supervision of Mr. Edes, chairman of the commission, who spent considerable time at Seward and who put to work several engineering parties to make a detailed examination of the line. Mr. Edes put one party to work to trace the Alaska Northern Railway from Seward to the end of the line, including the terminals at Seward and intermediate sidings, following the methods generally used by the valuation division of the Interstate Commerce Commission in their technical valuation work. These engineering parties traced the entire line from beginning to end and computed quantities in cuts and fills, number of board feet of lumber in bridge and culvert structures, and generally made a detailed analysis of the value of the physical railroad, including all structures and other features.

Chairman Edes also made a close personal study with respect to the location of the general route of the Alaska Northern Railway. It had been popularly rumored that some mistakes in location had been made by the original builders of the Alaska Northern Railway and that easier grades could be secured, particularly over the second summit at Mile 45. The party detailed to make these investigations readily determined that the crossing of the first summit was, generally speaking, the proper route to follow. The original builders had paid little attention to the many niceties of railroad location, as to grades and compensation of grades on heavy curves, but the departures which were necessary to put this railroad line in a suitable location were so small as to amount to only slight changes of location in the immediate vicinity of the line already built. The crossing of the second summit at Mile 45, which was made at an elevation of 1,200 feet, was located for the original builders by Mr. Kyle, an engineer of considerable ability. Popularly speaking, criticism has been applied to his location of the "loop development," which he utilized in dropping grade from the summit to the level of the Placer River Valley. Mr. Edes personally made a close study of this part of the line, and to have definite figures before him for comparative purposes he put one locating party in the field to make a location of a 1¼ per cent line, dropping down from the 45-mile summit to the level of the Placer River Valley at the head of Turnagain Arm, which line was to be hung along the mountainside forming the north edge of the valley. It was soon determined that the 1¼ per cent line was entirely impracticable, and he directed his engineers to start at the same point and try for a 1½ per cent line. The party making this location was in charge of Mr. C. R. Breck, jr., a locating engineer formerly with the Southern Pacific Railroad, who made a definite location for a 1½ per cent line from the 45-mile summit to the head of Turnagain Arm, connecting with the existing location of the Alaska Northern Railway. This line was benched in along the precipitous bluffs of the Placer River Valley, and would have been an extremely heavy piece of construction. The question of snowslides was the most important consideration, and the item of snow sheds to make this line safe for operation would have been practically prohibitive.

It was, therefore, seen by these studies, investigations, and actual field surveys that while certain modifications of the existing line were desirable, generally speaking, the Alaska Northern Railway had been constructed in the proper location, and the plans of the Alaskan Engineering Commission were, therefore, laid on a basis of rebuilding the line in its present location, subject to such slight modifications as were necessary and desirable in the interests of economy and betterment of alignment and grade. The first estimate for the rehabilitation of the Alaska Northern Railway was $955,601 and was prepared on the basis of putting the existing line in suitable condition for light traffic. The Alaska Northern Railway had a number of light engines and other rolling stock, and it was the idea of the commission that the existing track should be put in shape to accommodate light traffic as soon as possible, the line to be later rebuilt for standard traffic when the necessities called for it, inasmuch as this railroad had no connection with any other line and there was no need of rebuilding the first year for heavy traffic. It was known that it would take some time to do the extremely heavy work along Turnagain Arm, which would make through connection with the Alaska Northern Railway and the remainder of the system from Anchorage to the Matanuska coal fields.

At the time that these examinations were made and these estimates were prepared I made a careful study of the figures, and I am of the opinion that the Government paid a fair and reasonable figure to the owners of the Alaska Northern Railway, which amount was $1,154,188.49.

There was an additional item of expense for attorneys, fees amounting to $3,651, bringing the grand total up to $1,157,839.49.

I am advised that distribution of the $1,154,188.49 was made to the owners of the property as follows:

| | |
|---|---|
| Paid to The Canadian Bank of Commerce: | |
| First payment | $368, 360. 00 |
| Second payment | 540, 800. 00 |
| Total | 909, 160. 00 |
| Paid to O. G. Larabee, receiver for certain American interests: | |
| First payment | 70, 429. 59 |
| Second payment | 57, 200. 00 |
| Total | 127, 629. 59 |
| Paid to Richard Armstrong, receiver for certain American interests: | |
| First payment | 65, 398. 90 |
| Second payment | 52, 000. 00 |
| Total | 117, 398. 90 |

Furthermore, the estimate of our engineers as to the actual value of the property secured was slightly in excess of the sum just named, which was certified to by the valuation experts of the Interstate Commerce Commission.

In addition to the terminals and physical properties acquired along the line of the Alaska Northern Railway from Seward to Kern Creek, 71 miles, the commission secured a very considerable value in the work which had been done by the former Alaska Northern Railway Co. at various points along Turnagain Arm and by having the benefit of the studies, maps, and profiles which they had prepared as a result of their field surveys from Seward to Fairbanks over the entire present adopted route of the Government railroad and of the Matanuska Branch line.

The Alaska Northern Railway Co. had started along Turnagain Arm and had built contractors' camps at various points from which to attack the line. At certain of these points they had done some grading, noticeably at Rainbow Creek, Mile 94, where something less than a mile of grade had been practically completed. They had also cleared the right of way over a considerable portion of the Turnagain Arm work on their adopted route, and while we did not in all cases follow the definite location which they had intended to follow in the construction of their line, still the experience gained by their efforts was valuable to the commission in the final determinal of the route over this section.

From the best information which the commission was able to obtain at the time the investigations regarding the purchase of the Alaska Northern Railway were under way, it was ascertained that the Alaska Northern Railway had cost the original owners and builders $5,250,000. It should also be remembered that the earning power of money at the time the Alaska Northern Railway was originally built was greater than at the time the Government took over the property.

I went all over the property of the Tanana Valley Railroad in the summer of 1914 when I was first sent to Alaska. There were 44 miles of track then being operated by the private owners. This narrow gauge railroad ran from the town of Fairbanks westward for about 9 miles to the town of Chena, which, at certain stages of the river, was the head of navigation for the larger steamers. It also had a line running from a junction point between Fairbanks and Chena 35 miles to the several small towns in the mining district, terminating at Chatanika. I went over all the right of way of this property, and at that time, 1914, it was in a serviceable condition, although the track and bridge structures had much deteriorated on account of lack of maintenance. As stated, the private owners were operating this road every day in the year and were receiving revenues from their passenger and freight business in an amount which just paid them for their operation, but did not leave sufficient margin for proper maintenance and rehabilitation or profit on the investment.

At the time that the purchase of this railroad was determined upon by the commission, I was, as stated, in Alaska, and the conference on the subject was held by Chairman Edes and Mr. Riggs with the Secretary of the Interior, Mr. Riggs being the commissioner in charge of the Fairbanks division at that time. I am of the opinion that the commission did exactly the proper thing when they purchased the Tanana Valley Railroad to become a part of the system of the Government railroad at the northern terminus. While the physical property has much deteriorated, there is, as has been stated, a live railroad and they were running trains 365 days in the year and serving the public both as to passenger and freight business.

The sum paid to the private owners for the Tanana Valley Railroad was $300,000, or an average of $6,818 per mile. This figure included the shops and terminals at Fairbanks, such as station buildings, yards, etc., and which were a valuable asset to the Alaskan Engineering Commission in connection with the terminals for the standard gauge railroad. It would have been necessary, under any circumstances, to have provided joint right of way occupancy for the entrance of the standard gauge Government railroad into the town of Fairbanks over a distance of 7 miles of the Tanana Valley Railroad. I am advised that the cost of the Tanana Valley Railroad to the original owners was about $800,000.

To specifically answer your question as to what circumstances made the purchase of these two roads advisable or necessary, I beg to say that I believe I have answered this question with respect to the Tanana Valley railroad in my last statement. With regard to the Alaska Northern Railway, I will say that under the terms of the act calling for the construction of the Government railroad in Alaska, it is required that said road terminate on a harbor on the south coast of Alaska which is ice free all months in the year. Under these stipulations it was necessary to start at the town of Seward, situated at the head of Resurrection Bay, one of the most beautiful harbors in Alaska. Having determined the fact that the Alaska Northern Railway, generally speaking, followed the most practicable route toward the interior, there was no other course for the commission to pursue than to purchase this road. Having determined by a careful field physical valuation, checked and certified to by the experts of the Interstate Commerce Commission, that the figure asked by the private owners for this property was not in excess of the present-day value, it was the part of wisdom and economy to purchase the property; in fact if this property had not been purchased, the Government would have been forced to the measure of constructing a new railroad which, generally speaking, would have paralleled the existing Alaska Northern Railway. It is obvious, therefore, that only two courses were open to the commission: The first, to enter into negotiations with the owners and pay a reasonable present-day value for the property, or to enter into condemnation proceedings, through the United States Courts, which, in the end, would have amounted to the same thing, namely, paying a reasonable price for the property condemned.

The CHAIRMAN. If there is no one else to appear before the committee, and if there is no objection, I will declare the hearings closed.

Mr. JOHNSON. Mr. Chairman, I think the committee owes the thanks to the present commissioner and the former commissioner for attending the hearings and giving us such evidence as they have given. Now I would like to move that the committee report the bill (H. R. 7417) with a favorable recommendation to be made by the chairman, and that the members of the committee make every effort to secure the passage of the bill.

Mr. STRONG. I second the motion.

(The motion was unanimously carried.)

The CHAIRMAN. I want to thank Mr. Edes, and Col. Mears and the other gentlemen who have appeared before the committee, and I hope the bill may be passed expeditiously.

(Thereupon the committee adjourned.)

# APPENDIX.

[ From United States Geological Survey Bulletin No. 442, Mineral Resources of Alaska, 1909, by Alfred H. Brooks.]

## TONNAGE ESTIMATES OF ALASKAN COAL.

Estimates of Alaska's coal resources, expressed in tonnage, were prepared for the Conservation Commission.[1] Although these figures are of some value to the economist, inasmuch as they serve to indicate the minimum quantity of fuel which Alaska can furnish, yet they do not show the ultimate coal resources of the Territory. The estimates have little bearing on the questions here under consideration, but as they have recently received wide publicity and have to some extent been misinterpreted, it seems best to repeat them and to discuss briefly their significance.

The facts already presented which militate against an accurate statement of the area of Alaska coal lands apply with still greater force to estimates of tonnage. Of the 1,202 square miles classed as coal land, less than one-quarter has been surveyed in sufficient detail to yield any quantitative data whatever. Even where such surveys have been made, a large factor of uncertainty is introduced either by the folded and faulted condition of the coal beds or by the lack of definite knowledge regarding sequence of strata. There must, therefore, be a very large element of uncertainty in the tonnage estimates for even the 300 to 400 square miles of surveyed coal fields. Moreover, in Alaska there are almost no data available from private sources, such as the results of extensive mining or prospecting operations, which form an important element in the estimates made of the coal resources of the States.

The estimates of tonnage given below were made by Mr. Martin on the following basis:

1. No beds less than 3 feet thick were assumed to be workable or contributed to the tonnage.
2. The depth of workability was assumed to be 3,000 feet for the highest-grade coal (anthracite, semianthracite, semibituminous); 2,000 feet for the better bituminous and subbituminous coals, such as those on the lower Yukon, at Cape Lisburne, and on Matanuska River; and 1,000 feet for the poorer subbituminous coals and all the lignites.
3. The tonnage was computed by the formula tonnage=area of bed to limit of workability (square miles)×thickness (inches)×specific gravity×72,600.
4. The specific gravity was assumed to be 1.30 for lignite, 1.35 for bituminous, and 1.38 for the high grade coals.
5. Bering River field: A certain percentage of the coal-bearing rocks is shown by the average sections to consist of workable coal beds; this percentage of the computed bulk of rock to the limit of workability gave the estimated tonnage.
6. Nenana field: As for Bering River, with the necessary change for percentage of coal in rocks.
7. Matanuska field: Each bed was estimated separately according to its average thickness, length on a safe assumption of continuity, and width on the dip to the limit of workable depth.
8. Lisburne field: The Corwin district was computed like the Matanuska, the length of the beds being assumed to be the distance from the shore to the edge of the mapped area. The Beaufort district was assumed to have one-half the tonnage per square mile of the Corwin district.
9. Yukon field: Each bed was figured as in the Matanuska, but the beds were not assumed to extend more than a mile in each direction from the mine or prospect where they had been exposed, except in the Washington-Bonanza district, where a continuity of 50 miles on the strike was assumed.
10. Cook Inlet field: Computed as for the Matanuska.

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[1] Rept. Nat. Conserv. Comm., Senate Doc. 676, 60th Cong., 2d sess., vol. 3, p. 581; reprinted in Bull. U. S Geol. Survey No. 394, 1909, p. 182.

11. All the other fields were computed on the basis of a most conservative estimate of thickness of coal underlying the field and an area believed to be a safe minimum. In none of the fields was the coal assumed to go beyond points where it is shown to exist by reliable information from members of the survey. The areas used in making the last class of estimates are consequently very small and are possibly subject to an immense extension in the light of subsequent information.

*Tonnage estimates of Alaska coal lands.*

| | Short tons. | | Short tons. |
|---|---|---|---|
| Pacific coast: | | Arctic slope: | |
| Anthracite | 1,611,700,000 | Semibituminous | 66,800,000 |
| Semianthracite | 517,100,000 | Subbituminous | 3,465,600,000 |
| Semibituminous | 1,425,800,000 | Lignite | 1,003,200,000 |
| Total high grade | 3,554,600,000 | | 4,535,600,000 |
| Bituminous | 2,600,000 | Summary by kinds of coal: | |
| Subbituminous | 535,500,000 | Anthracite | 1,611,700,000 |
| Lignite | 2,173,100,000 | Semianthracite | 517,100,000 |
| | | Semibituminous | 1,492,600,000 |
| Total low grade | 2,711,200,000 | | |
| Total Pacific coast | 6,265,800,000 | Total high grade | 3,621,400,000 |
| Interior region: | | Bituminous | 18,500,000 |
| Bituminous | 15,900,000 | Subbituminous | 4,060,300,000 |
| Subbituminous | 59,200,000 | Lignite | 7,404,300,000 |
| Lignite | 4,228,000,000 | | |
| | | Total low grade | 11,483,100,000 |
| | 4,303,100,000 | Grand total | 15,104,500,000 |

In making these estimates the attempt has been made to err on the conservative side, and thus they represent minimum rather than maximum figures in each case. This may account for the fact that they indicate an average of 20,000 tons to the acre on the Alaska coal lands, as compared with 32,000 tons to the acre in the coal fields of the western public-land States. On the other hand, with the same data for any particular area, the coal estimates of the Federal geologist will usually exceed those made by the mining engineer for private interests. The reason for this lies in the fact that the geologist includes in his estimate all the coal beds of a certain thickness and to a certain depth, for it is his purpose to present figures which shall approximate at least the ultimate coal resources of the district under examination. The mining engineer, on the other hand, is not interested in the ultimate coal recovery but is charged with the duty of estimating the quantity of coal which is either immediately available or can be mined under conditions that will soon arrive. For example, a number of engineers have roughly approximated the coal of the Bering River field at 500,000,000 tons, and these figures have been widely quoted. This estimate, however, includes only the coal lying above water level which can be mined without hoisting. The tonnage estimate of the Geological Survey is many times this figure, because it includes all the coal lying within 3,000 feet of the surface. It should therefore be borne in mind that the two classes of estimates are made with very different purposes and do not admit of direct comparison.

In considering the above table it must be remembered that these estimates cover only the 1,202 square miles of coal lands, namely, that part of the coal fields which, with a reasonable degree of certainty, is believed to be underlain by workable coal beds. No allowance whatever is made for the remainder of the 12,667 square miles, which are mapped as coal fields. The possibilities of finding coal in the unsurveyed districts are also ignored. Evidently, therefore, if the same acre tonnage holds throughout the coal fields, these estimates should be multiplied by 10. Again, the discovery of new coal fields will add to the tonnage. It is therefore probably safe to say that the minimum estimate of Alaska's coal resources should be placed at 150,000,000,000 tons and that the actual tonnage may be many times that amount. These figures indicate coal resources far in excess of the original coal supply of Pennsylvania. It must be remembered, however, that over half the Alaska coal is lignite, while all of the Pennsylvania coal is of a high grade.

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